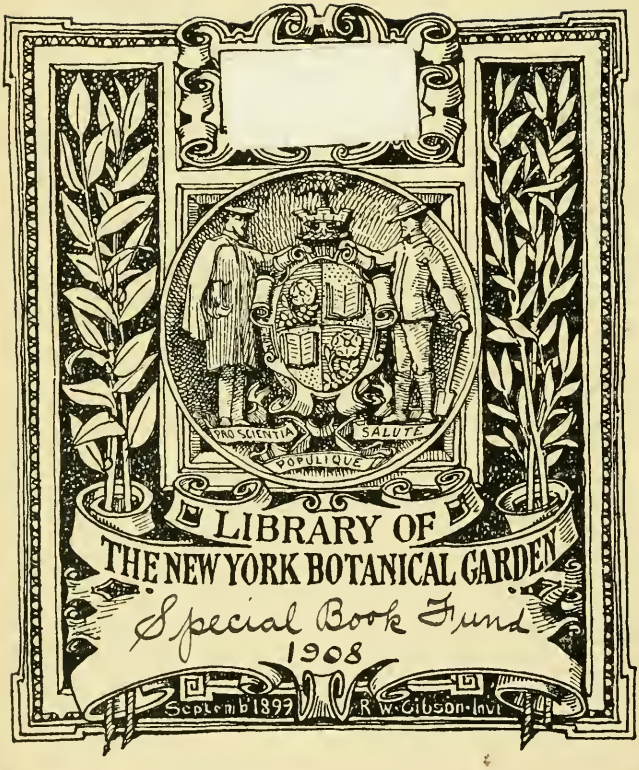
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TRANSACTIONS

OF THE

Illinois State Horticultural Society

FOR THE YEAR 1888.

BEING THE

PROCEEDINGS OF THE THIRTY-THIRD ANNUAL MEETING

HELD AT

ALTON, DECEMBER 11, 12, 13,

ALSO PROCEEDINGS OF THE

CENTRAL, ALTON-SOUTHERN AND NORTHERN DISTRICT SOCIETIES, ALSO PIKE COUNTY, KANKAKEE AND WARSAW SOCIETIES

FOR THE YEAR 1888.

NEW SERIES—VOL. XXII.

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GARDEN

Edited by the Secretary, A. C. HAMMOND, Warsaw, Illinois.

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NEW YORK
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GARDEN.

REPORT TO THE GOVERNOR.

To His Excellency JOSEPH FIFER, *Governor of Illinois:*

I take pleasure in herewith presenting you the twenty-second volume of Transactions of the Illinois State Horticultural Society, and trust that its perusal will convince you that the Legislature has acted wisely in granting us State aid.

It is very gratifying to those who have labored long and earnestly to advance the interests of tree planting, fruit growing and home ornamentation and to make this organization the peer of any of its kind in the world, to know that their work is becoming more and more appreciated, and that the demand for the Transactions is ten-fold greater than ten years ago.

It is imperatively necessary for the highest welfare of our rural people that this demand be supplied, and our Transactions sent into every Township (and if possible into every farm-house) in the State. To do this of course a larger appropriation will be required, but those who have given the subject careful attention, are convinced that the benefit to the farmers and fruit growers of the State will many times pay the cost.

Very respectfully yours,

A. C. HAMMOND, *Secretary.*

WARSAW, Jan. 22, 1889.

JAN 11 1902

OFFICERS FOR 1889.

President — H. M. DUNLAP, Savoy.
Vice-President — D. H. GRAY, Elmwood.
Secretary — A. C. HAMMOND, Warsaw.
Treasurer — H. K. VICKROY, Normal.

EXECUTIVE BOARD.

H. M. DUNLAP .....President State Society.
A. C. HAMMOND .....Secretary State Society.
ARTHUR BRYANT, President Horticultural Society of Northern Illinois.
A. DUNNING, Vice-President Horticultural Society of Northern Illinois.
C. N. DENNIS, President Horticultural Society of Central Illinois.
F. I. MANN, Vice-President Horticultural Society of Central Illinois.
WM. JACKSON, President Horticultural Society of Southern Illinois.
J. S. BROWNE, Vice-President Horticultural Society of Southern Illinois.

AD-INTERIM COMMITTEES.

The ad-interim work, was placed in the hands of the Presidents and Vice-Presidents of the three District Societies, with instructions to perform it themselves or call to their aid such assistance as they may need.

ANNUAL MEETING.

The Annual Meeting for 1889 will be held at Hamilton, December 10th, 11th, and 12th, 1889.

STANDING COMMITTEES.

Orchards — Thomas Lowry, Flora; Benjamin Buckman, Farmingdale; S. G. Minkler, Oswego.

Farmer's Kitchen Garden — J. M. Berry, Elvaston; J. M. Pearson; Godfrey; L. A. Budlong, Bowmansville.

Small Fruit for the Farmer's Garden for a family of six, Varieties, Cultivation and Amount — J. Webster, Centralia; Ira Coe, Quincy; Wm. C. Hazelton, Forest Grove.

Grapes — A. H. Worthen, Warsaw; E. C. Hathaway, Ottawa; G. W. Endicott, Villa Ridge.

Experiment Station — What is being done, J. T. Johnson, Warsaw; What can be done, Arthur Bryant, Princeton.

Strawberries — Caleb Miller, Anna; J. S. Browne, Alton; J. G. Bubach, Princeton.

Stone Fruits — Caleb Miller, Anna; Jacob Freeze Jr., Coatsburg; R. W. Neil, Huey.

Ornamental Planting — A. Dunning, Dunning.

Forestry — G. W. Minier, Minier; L. R. Bryant, Princeton; L. C. Francis, Springfield.

Floriculture — Carthage Floral Guild, Carthage; Montebello Floral Society, Hamilton; Ladies Floral Society, Warsaw.

Fruit Growing Combined with Farming — Wm. Jackson, Godfrey.

Spraying Fruit Trees — L. R. Bryant, Princeton; J. G. Vaughan, Odin.

New Orchard Fruits — W. R. Crain, Villa Ridge.

New Small Fruits — H. K. Vickroy, Normal; D. J. Piper, Forreston.

Nut Bearing Trees — Prof. T. J. Burrill, Champaign; G. W. Hilliard, Brighton.

Raspberries and Blackberries — P. E. Vandenburg, Jerseyville; H. R. Cotta, Nursery.

Fruit Blossoms — Prof. T. J. Burrill, Champaign.

Top Working Fruit Trees — J. V. Cotta, Nursery.

Little Things in Nature — Mrs. O. F. Berry, Carthage.

Mistakes in Horticulture — A. L. Hay, Jacksonville.

Necessity for Pollenizing the Grape — F. I. Mann, Gilman.

How Shall the Fruit Grower Maintain the Fertility of his Soil — E. A. Riehl, Alton.

Relation of Bees to Horticulture — C. P. Dadant, Hamilton.

Cultivating and Marketing Tomatoes and Sweet Potatoes — T. E. Goodrich, Cobden.

YOUNG PEOPLE'S SESSION.

Flowering Shrubs for Garden and Lawn — F. J. Heinl, Jacksonville.

Influence of Flowers on the Home — Miss Emma Sanford, Warsaw; Miss Lulu Hay, Jacksonville; Miss Mattie Cochrane, Hamilton.

Young People on the Farm — Wm. Jackson Jr., Godfrey; Miss Lucy H. Bryant, Princeton.

The Children's Garden Patch — Edwin H. Riehl, Alton.

The Secretary was instructed to add to this list of young people as may seem best. He would therefore be pleased to correspond with some of our young ladies and gentlemen who are interested in rural affairs, and are willing to prepare papers for this occasion.

CONSTITUTION AND BY-LAWS.

AS AMENDED AT THE ANNUAL MEETING, 1874.

CONSTITUTION.

I. This Association shall be known as the ILLINOIS STATE HORTICULTURAL SOCIETY.

II. Its object shall be the advancement of the Science of Pomology and the Art of Horticulture.

III. Its members shall consist of Annual members, paying an annual fee of one dollar; of Life members, paying a fee of twenty dollars at one time; and of Honorary members, who shall only be persons of distinguished merit in Horticulture or kindred sciences, who may, by vote, be invited to participate in the privileges of the Society. The wives of members shall be members without fee.

IV. Its officers shall consist of a President, one Vice-President, Secretary, and Treasurer, who shall be elected at the annual meeting, and serve until their successors are chosen; also on Executive Board as hereinafter provided.

V. The affairs of the Society shall be managed by an Executive Board to consist of the President and Secretary of the Society, and the President and Vice-President from each of the three District Horticultural Societies of the State.

VI. The Society shall hold annual meetings, and publish its transactions annually; *provided*, there are sufficient funds in the treasury to defray the expenses of publication.

VII. The Constitution may be amended at any regular meeting by a two-thirds vote of the members present.

BY-LAWS.

I. The President shall preside at all meetings of the Society, call the meetings of the Executive Board, and, under its direction, have a general superintendence of the affairs of the Society; and direction of expenditure of money; he shall deliver an annual address upon some subject connected with Horticulture, and shall appoint all special committees unless otherwise ordered.

II. The Vice-President shall preside at the meetings in the absence of the President.

III. The Secretary shall, upon the direction of the Executive Board, conduct the correspondence of the Society, have charge of its books, papers and reports, and prepare its reports for publication; and shall receive for his necessary expenses for postage, stationery, printing, expressage, office rent and salary, such sums as the Executive Board may vote therefor.

IV. The Treasurer shall receive and keep an accurate account of all moneys belonging to the Society, and disburse the same upon the written orders of the President, which he shall retain and file as vouchers; he shall make an annual report to the Society of the receipts and disbursments, which, with the vouchers, shall be referred to a special auditing committee appointed at the annual meeting. Before entering upon his duties he shall give bond to the Society in the sum of five thousand dollars for the faithful performance of his duties; such bond to be approved by the Executive Board.

V. The Executive Board shall perform all the duties required of them by Section 4, of the "Act reorganizing the State Horticultural Society," approved March 24, 1874. They may appoint such standing and other committees as they may deem advisable.

VI. These By-Laws may be altered at any regular meeting by a two-thirds vote of the members present.

AN ACT to reorganize the Illinois State Horticultural Society:

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

SECTION 1. That the organization heretofore chartered and aided by appropriations under the name of the Illinois State Horticultural Society, is hereby made and declared a public corporation of the State.

SEC. 2. The Illinois State Horticultural Society shall embrace, as hereinafter provided, three horticultural societies, to be organized in the three horticultural districts of the State, which shall be known as the Horticultural Society of Northern Illinois, now operating in the counties of Bureau, Boone, Cook, Carroll, DuPage, DeKalb, Henry, Grundy, Jo Daviess, Kane, Kendall, Kankakee, Lake, Lee, LaSalle, McHenry, Ogle, Putnam, Rock Island, Stephenson, Whiteside, Winnebago and Will (23); the Horticultural Society of Central Illinois, operating in the counties of Adams, Brown, Cass, Champaign, Christian, Coles, DeWitt, Douglas, Edgar, Fulton, Ford, Iroquois, Hancock, Henderson, Knox, Logan, Livingston, McLean, McDonough, Marshall, Mason, Mercer, Menard, Morgan, Macon, Moultrie, Peoria, Pike, Piatt, Sangamon, Shelby, Schuyler, Scott, Tazewell, Vermilion, Warren and Woodford (38); and the Horticultural Society of Southern Illinois, operating in the counties of Alexander, Bond, Clark, Clay, Crawford, Calhoun, Cumberland, Clinton, Edwards, Effingham, Fayette, Franklin, Green, Gallatin, Hamilton, Hardin, Jasper, Jefferson, Jersey, Jackson, Johnson, Lawrence, Madison, Macoupin, Marion, Monroe, Montgomery, Massac, Perry, Pope, Pulaski, Richland, Randolph, St. Clair, Saline, Union, Wayne, White, Washington, Williamson and Wabash (41).

SEC. 3. The affairs of the Illinois State Horticultural Society shall be managed by an Executive Board, to consist of the President and Secretary said Society, and the President and one vice-President from each of the three District Horticultural Societies; *provided*, that the eligible officers now elect of the Illinois State and District Horticultural Societies shall be the first members of the Executive Board created by this act, and shall hold their office until their successors are elected, as hereinafter provided.

SEC. 4. The Executive Board of the Illinois State Horticultural Society shall have the sole care and disposal of all funds that may be apportioned (appropriated) by the State of Illinois to sustain the Illinois State Horticultural Society, and shall expend the same in such manner as in their judgment will best promote the interests of Horticulture and Aboriculture in this State. They shall meet at Springfield on the second Tuesday after the first Monday in January, 1875, and biennially thereafter. They shall render to the Governor of the State a detailed statement of all funds

received from the State and all other sources, which statement shall also include all expenditures made by them, and the specific objects in detail for which said sums were expended. They shall make no appropriation without having funds in hand to meet the same, and if any debt is created, the members of the Board shall be held severally and jointly liable for the payment of the same, and in no event shall the State of Illinois be held liable or responsible for any debt, obligation or contract made by the Illinois State Horticultural Society or its Executive Board.

SEC. 5. The Illinois State and the three District Horticultural Societies shall hold annual meetings, at which their officers for the ensuing year shall be elected. Within one month after the annual meeting of the District Societies they shall forward to the Secretary of the Executive Board a report of their transactions, including a list of officers elected at such meeting. The Executive Board shall publish annually, at the expense of said Society, a report of its transactions and such other papers as they may deem of value to Horticulture and Arboriculture. Four members of the Executive Board shall constitute a quorum for the transactions of business.

SEC. 6. Members of the several District Societies shall be entitled to all the privileges of the members of the State Society, except that of voting for officers.

SEC. 7. By-Laws and rules that do not conflict with the laws of this State may be passed and enforced by the several Societies herein mentioned.

Approved March 24, 1874.

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* The Society was first incorporated February 11, 1857 — two months after its organization.

List of Members for 1889.

Auer, Jacob ..... Deer Plain.
Augustine, Henry ..... Normal.
Baldwin Bros. ..... Jacksonville.
Berry, R. C ..... Batchtown.
Bancroft, L. R ..... Pontiac.
Bryant, L. R ..... Princeton.
Bryant, Arthur ..... Princeton.
Bryant, E. W ..... Princeton.
Bryant, H. G. ..... Princeton.
Buckman, Benj ..... Farmingdale.
Browne, J. S ..... Alton.
Barnard, O. W. ..... Manteno.
Beeby, J. C ..... Girard.
Beal, L. N ..... Mt. Vernon.
Cottle, J. R ..... Princeton.
Conner, S. F ..... Alton.
Cart, J. J ..... Morrisonville.
Cope, A ..... Tonti.
Cook, G. W. E ..... Lacon.
Crain, W. R ..... Villa Ridge.
Cogswell, C. H ..... Virden.
Curtis B. O ..... Paris.
Coe, Ira ..... Quincy.
Collins, Mrs. C. E ..... Alton.
Doan, H. L ..... Jacksonville.
Dyer, W. S ..... Springfield.
Dennis C. N. & Son ..... Hamilton.
Draper, B. F ..... Malvern, Ark.
Draper, A. N ..... Upper Alton.
Endicott, G. W ..... Villa Ridge.
Freeze, Joseph & Son ..... Coatsburg.
French, Prof. G. H ..... Carbondale.
Fitch, J. N ..... Cobden.
Fowler, J ..... Brussels, Calhoun Co.
Galusha, O. B ..... North Peoria.
Goodrich, T. E ..... Cobden.
Gray, D. H ..... Elmwood.
Graves, E. W ..... Sandwich.
Graves, H. C ..... Sandwich.
Hutchinson, W. A ..... Tennessee.
Hay, George ..... Savannah.
Hollister, E. T ..... 811 N. 3d. St. Louis, Mo.
Hay, Leon ..... Kankakee.
Huber, T. E ..... Illinois City.
Harlan, Frank ..... Canton, Mo.
Hammond, A. C ..... Warsaw.
Hall, Dr. Lyman ..... Champaign.
Humphrey, Edward W ..... Quincy.
Hilliard, G. W ..... Brighton.

Hay, A. L ..... Jacksonville.
Jackson, Wm ..... Godfrey.
Johnson, F. C ..... Kishwaukee.
Johnson, James T ..... Warsaw.
Judd, James S ..... Chicago.
Kramer, John ..... Brighton.
Lightner, F. L ..... Agl. College, Ames, Iowa.
Leeper, J. Byrd ..... Pellonia.
McPike, H. G ..... Alton.
Minkler, S. G ..... Oswego.
McWhorter, Tyler ..... Aledo.
Mathews, J. B ..... Marissa.
Mann, F. I ..... Gilman.
Mesler, W. P ..... Cobden.
Mortimer, Henry ..... Grayville.
McCluer, G. W ..... Champaign.
Mastterson, B. F ..... Auburn.
Nehring, Wm. F ..... Strausburg.
Niel, R. W ..... Huey.
Perrine, G. H ..... Centralia.
Poscharsky, F. W ..... Princeton.
Pearson, John M ..... Godfrey.
Riehl, E. A ..... Alton.
Riehl, F. C ..... Alton.
Rehmeyer, Henry ..... Jacksonville.
Rockwell, C. B ..... Hamilton.
Strubler, Phil ..... Naperville.
Stutzman, A. W ..... Morrisonville.
Sturgis, M. B ..... Des Moines, Iowa.
Schureman, W. H ..... Normal.
Swindler, H. J ..... Magnolia.
Tucker, E. W ..... Williamsfield.
Vickroy, H. K ..... Normal.
Vaughan, J. C ..... 146 W. Washington St. Chicago.
Vaughan, J. G ..... Odin.
Vandenburg, Peter E ..... Jerseyville.
Wilkinson, Thos ..... Friendlyville.
Webster, Jabez ..... Centralia.
Warfield, B. C ..... Sandoval.
Webber H. J ..... Gardenville, Mo.
Wilson, J. P ..... Olney.

HONORARY MEMBERS.

Babcock, E. F ..... Little Rock, Ark.
Brackett, Col. G. B ..... Denmark, Iowa.
Dunlap, Mrs. H. M ..... Savoy, Ill.
Murtdfelt, Chas ..... Kirkwood, Mo.
Nash, Miss Bessie M ..... Warsaw, Ill.
Patterson, Chas ..... Kirksville, Mo.
Reed, Miss Alice W ..... Warsaw, Ill.
Samuels, Wm. M ..... Clinton, Ky.

PREMIUM LIST.

The following premiums are offered for exhibits of horticultural products to be shown at the annual meeting of the Society to be held at Hamilton, December 10–12, 1889. All entries, except in Class IV, to be confined to the State.

C. E. Dennis, Superintendent of Exhibits.

APPLES.

CLASS I.—FROM NORTHERN ILLINOIS

	1st.	2nd.
1.—Best five varieties, winter apples, for market	$3.00	$2.00
2.—Best five varieties, winter apples, for family use	3.00	2.00
3.—Best three varieties, fall apples, for market	3.00	2.00
4.—Best three varieties, fall apples, for family use	3.00	2.00
5.—Best plate winter apples for market	2.00	1.00
6.—Best plate winter apples for family use	2.00	1.00
7.—Best plate fall apple for market	2.00	1.00
8.—Best plate fall apple for family use	2.00	1.00
9.—Best plate Ben Davis	1.00	.50
10.—Best plate Willow Twig	1.00	.50
11.—Best plate Jonathan	1.00	.50
12.—Best plate Grimes' Golden	1.00	.50
13.—Best plate Minkler	1.00	.50
14.—Best plate Domine	1.00	.50
15.—Best plate Roman Stem	1.00	.50
16.—Best plate Wealthy	1.00	.50
17.—Best plate Maiden's Blush	1 00	.50
18.—Best plate Snow	1.00	.50
19.—Best plate Red Canada	1.00	.50
20.—Best plate Bailey Sweet	1.00	.50
21.—Best plate Broadwell	1.00	.50
22.—Best plate Northern Spy	1.00	.50
23.—Best plate Cayuga Red Streak	1.00	.50

CLASS II.—CENTRAL ILLINOIS.

24.—Best five varieties, winter apples, for market	$3.00	$2.00
25.—Best five varieties, winter apples, for family use	3.00	2.00
26.—Best three varieties, fall apples, for market	3.00	2.00
27.—Best three varieties, fall apples, for family use	3.00	2.00
28.—Best plate, winter apples, for market	2.00	1.00

	1st.	2d.
29.— Best plate, winter apples, for family use	2.00	1.00
30.— Best plate, fall apples, for market	2.00	1.00
31.— Best plate, fall apples, for family use	2.00	1.00
32.— Best plate Ben Davis	1.00	.50
33.— Best plate Willow Twig	1.00	.50
34.— Best plate Rome Beauty	1.00	.50
35.— Best plate Jonathan	1.00	.50
36.— Best plate Grimes' Golden	1.00	.50
37.— Best plate Minkler	1.00	.50
38.— Best plate Yellow Bellflower	1.00	.50
39.— Best plate Wine Sap	1.00	.50
40.— Best plate Northern Spy	1.00	.50
41.— Best plate Wealthy	1.00	.50
42.— Best plate Belmont	1.00	.50
43.— Best plate Bailey Sweet	1.00	.50
44.— Best plate Cayuga Red Streak	1.00	.50
45.— Best plate Hubbardstons Nonesuch	1.00	.50
46.— Best plate White Pippin	1.00	.50

CLASS III.—SOUTHERN ILLINOIS.

47.— Best five varieties, winter apples, for market, quality to rule	$3.00	$2.00
48.— Best five varieties, winter apples, for family use, quality to rule	3.00	2.00
49.— Best three varieties, fall apples, for market, quality to rule	3.00	2.00
50.— Best three varieties, fall apples, for family use, quality to rule	3.00	2.00
51.— Best plate winter apples, for market, quality to rule	2.00	1.00
52.— Best plate winter apples, for family use, quality to rule.	2.00	1.00
53.— Best plate fall apples for market, quality to rule	2.00	1.00
54.— Best plate fall apples for family use, quality to rule	2.00	1.00
55.— Best plate Ben Davis	1.00	.50
56. Best plate Willow Twig	1.00	.50
57.— Best plate Rome Beauty	1.00	.50
58.— Best plate Jonathan	1.00	.50
59.— Best plate Pennock	1.00	.50
60.— Best plate Domine	1.00	.50
61.— Best plate Newtown Pippin	1.00	.50
62.— Best plate Minkler	1.00	.50
63.— Best plate Fink	1.00	.50
64.— Best plate Northern Spy	1.00	.50
65.— Best plate Grimes' Golden	1.00	.50
66.— Best plate Smith's Cider	1.00	.50
67.— Best plate Wine Sap	1.00	.50
68.— Best plate Pickett's Late	1.00	.50
69.— Best plate Rawles' Janet	1.00	.50

CLASS IV.—NEW FRUITS.

	1st.	2d.
70.—Best collection of new apples, not to exceed five varieties	$5.00	$3.00
71.—Best plate Seedling, good enough to be recommended.	3.00	2.00
72.—Best plate, New Variety, good enough to be recommended	2.00	1.00

CLASS V.—MISCELLANEOUS.

	1st	2d.
73.—Best collection of pears	$5.00	$3.00
74.—Best collection of grapes	6.00	4.00
75.—Best and most artistic display of fruits, flowers and vegetables	5.00	3.00
76.—Best collection of apples, not to exceed twenty-five varieties, Rule II not to be enforced	10.00	5.00

CLASS VI.—VEGETABLES.

	1st.	2d.
77.—Best half peck early potatoes	$2.00	$1.00
78.—Best half peck potatoes for winter and spring	2.00	1.00
79.—Best half peck onions from seed	2.00	1.00
80.—Best half peck onions grown from sets	2.00	1.00
81.—Best three heads celery	2.00	1.00
82.—Best half peck sweet potatoes	2.00	1.00
83.—Best half peck turnips	1.00	.50
84.—Best half peck beets	1.00	.50
85.—Best half peck parsnips	1.00	.50
86.—Best half peck carrots	1.00	.50
87.—Best winter squash	1.00	.50
88.—Best head cabbage	1.00	.50
89.—Best sample of salsify	1.00	.50
90.—Best sample of winter radish	1.00	.50

CLASS VII.—CANNED FRUIT.

	1st.	2d.
91.—Best jar strawberries	$1.75	$ .75
92.—Best jar red raspberries	1.00	.75
93.—Best jar black raspberries	1.00	.75
94.—Best jar cherries	1.00	.75
95.—Best jar plums	1.00	.75
96.—Best jar blackberries	1.00	.75
97.—Best jar currants	1.00	.75
98.—Best jar gooseberries	1.00	.75
99.—Best display of canned fruits and jellies	5.00	3.00

RULES OF EXHIBITION.

I. All entries must be in the hands of the Secretary on, or before, the Saturday preceding the meeting. The entry cards will be handed exhibitors the first day of the meeting.

II. All articles must be entered in the name of the grower or manufacturer, and a statement to that effect MUST accompany the application for entry.

III. All exhibits MUST be on the tables by Tuesday, December 10th, at 7 p. m., properly arranged, and plainly and conspicuously labeled with the name of the fruit and grower and place of growth, and accompanied by a list for the use of the Awarding Committee.

IV. All exhibitors will be required to become members of the Society by the payment of one dollar. This will entitle them to a volume of the transactions and all the privileges of the Society for the coming year.

V. "Plates" of fruit — except grapes — shall consist of four specimens, neither more or less. The same variety may compete for different premiums, and different varieties for the same premium, but separate samples must be furnished for each entry.

VI. Competent committees will be appointed to make the awards, who will be governed by the following

SPECIAL RULES.

1st. The condition and general appearance of the fruit — which should be in its natural state, with all its parts — stems and calyx-segment — well preserved, not wilted nor shriveled.

2d. The size, in apples and pears, particularly, should be average, and neither overgrown nor small — the specimens should be even in size.

3d. The form should be regular or normal to the variety, and the lot even.

4th. The color and markings, or the surface, to be in character — not blotched nor scabby.

5th. When comparing different varieties, and even the same kind, grown on different soils, the texture and flavor are important elements in coming to a decision.

In Grapes we must consider and compare the form and size of the bunches, the size of the berries, their color, ripeness, flavor and condition.

6th. A fruit that has been named and passed upon by a Horticultural Society shall no longer be considered a "seedling," and a fruit that has been introduced and named ten years shall no longer be considered "new."

7th. All applications for entry of seedling and new fruits must be accompanied by a full statement of its origin, habit of growth, hardiness and productiveness, or no premium will be awarded.

The Secretary desires to call particular attention to the I, II, and III rules of exhibition, as he has been instructed by the Board to strictly enforce them.

LISTS.

The following lists of apples are recommended for planting in the three Horticultural Districts of the State.

FOR SOUTHERN ILLINOIS.

Early Summer — Benoni, Red June, Early Harvest.
Late Summer — Chenango Strawberry, Lowell, Maiden's Blush.
Fall — Jonathan, Mother, Grimes' Golden.
Winter — Ben Davis, Wine Sap, Minkler, Rome Beauty.
Recommended for trial — Yellow Transparent, Fink, Niel's Keeper, Pickett, Crain's Spice, Indian, Black Twig.

FOR CENTRAL ILLINOIS.

Summer — Red Astrachan, Benoni, Duchesse.
Fall — Maiden's Blush, Wealthy, Ramsdell's Sweet.
Early Winter — Jonathan, Grimes' Golden.
Late Winter — Ben Davis, Willow, Minkler.

FOR NORTHERN ILLINOIS.

Summer — Benoni, Duchesse.
Fall — Maiden's Blush, Cayuga Red Streak, Fameuse, Wealthy.
Winter — Jonathan, Ben Davis, Willow, Roman Stem, Minkler.

The following list of pears is recommended for general planting.

Pears — Tyson, Seckel, Keiffer, Flemish Beauty, Howell.

The following list of vegetables for the farmer's garden was recommended by the Society at the last annual meeting.

Asparagus, Radishes, Lettuce, Peas, Beets, Onions, Salsify, Cabbage, Tomatoes, Bush Beans, Sweet Corn, Lima Beans, Cucumbers, Melons, Rhubarb, Horse Radish.

The following lists of trees and shrubs are recommended as suitable for the purposes named.

FOR LAWNS.

Trees — Elm, Hard Maple, Magnolia Accuminata, Linden, Tulip Tree, Catalpa Speciosa, Birch, Mountain Ash, Norway Spruce, White Pine.

Shrubs — Syringa Philadelphus, Snow Ball, Upright Honeysuckle, Strawberry Tree, Fring Tree, Purple Leaved Berberry, Lilac, Flowering Almond, Spirea Van-Hauttii, Flowering Quince, Hydrangea-P-E-Grandiflora, Calycanthus.

Climbers — American Ivy, Scarlet Honeysuckle, Fragrant Honeysuckle, Clematis Jackmanii, Wisteria.

FOR SCHOOL YARDS.

Elm, Ash, Hard Maple, Catalpa Speciosa, Linden.

FOR THE ROAD SIDE.

Elm, Linden, Hard Maple, Ash, Catalpa Speciosa.

PROCEEDINGS

OF THE

THIRTY-THIRD ANNUAL MEETING

OF THE

Illinois State Horticultural Society

HELD AT

ALTON, DECEMBER 11, 12 AND 13, 1888.

The Thirty-third Annual Meeting of the Illinois State Horticultural Society convened in Root's Opera House, in the city of Alton, December 11th, 1888, with President Dunlap in the Chair.

At the appointed time the President called the house to order and invited Rev. J. W. Caldwell to invoke the divine blessing.

Mr. Minkler—Thirty-three years ago a few of the energetic horticulturists of the State met in this city and organized the Illinois State Horticultural Society. As one of the original corporators, it gives me great pleasure, after the lapse of a third of a century, to again meet the Society at the place of its birth. But of that little company who founded this Society, which has been such a power for good, I am to-day the only representative present, and it is sad to know that nearly all have gone to the "other shore."

Hon. H. G. McPike, Mayor of the City, welcomed the Society in the following appropriate words:

Mr. President and Members of the
Illinois State Horticultural Society:

It is with pleasure that we greet you to-day, and welcome you to the city of the bluffs. I have long been interested in horticulture, and for many years connected with our local society, and am proud of the work it has done. Alton may truly be called the

cradle of western horticulture, and has given the world some of the most eminent men, in this line of work, that the century has produced. We point with pride to the names of Hill and Flagg. They have gone to their reward but their works do follow them. Now, in the name of the good people of Alton and of the Alton Horticultural Society, I welcome you to our city, and trust that your visit may be pleasant and your meeting one of great profit.

President Dunlap — In behalf of the Society, I thank you for these kind words of welcome, and can assure you that they are appreciated. Thirty-three years ago the Society here had its birth, and it is fitting that now in the vigor of its manhood, it should return to the place of its infancy. We know something of the noble men referred to and appreciate the grand work they have done. Again thanking you for your cordial welcome, we will proceed with our regular business.

REPORT OF THE COMMITTEE ON ORCHARDS.

BY ALLAN COPE, TONTI.

On receipt of horticultural report for 1887, I was somewhat surprised to find my name down for an article on orchards. Twenty-five years ago I was much more positive in my views than at present as to varieties and cultivation. Then I thought the orchard location should be on high, rolling land, cultivating so as to get rid of water.

Ben Davis stands (to-day) at the head of the list for profit; but when we reflect that seven-tenths, if not eight-tenths of the winter varieties set within the last five years are of that kind, may we not feel some apprehension as to its future success. There seems to be a well-founded belief that all things have their youth, manhood, old age and decay; even worlds form no exception. To be convinced that apples form no exception, it is only necessary to think of the different kinds that stood well in their day, but now have been left almost entirely out, not because they would not be profitable could they be grown with all the beauty and certainty as when Nature first gave those varieties to the children of men.

The Ben Davis has turned its face to the setting sun and seems to feel the chill of old age coming on. The people, to a certain extent, seem to realize this, but the pertinent question with everyone is, if not the Ben Davis, what shall we set? Plant Ben Davis, but not to the exclusion of other varieties, nor in solid blocks by themselves for reasons given farther on. Mix in Minkler, Wine Sap, Rome Beauty, or any variety that experience or location may suggest.

Could our legislators fully realize that fruits of all kinds are

paying in their nature, they certainly would respond by establishing local experiment stations, the only practical way in which the question can be met.

It is too much to expect individual effort will experiment for years with, perhaps, barren results. And the temptation to foist on the public new varieties of doubtful merit for the purpose of gain is very great; as to the location, the conditions are different, seasons have changed. Thirty years ago much of the land was in its native state, unfenced, unscarred by the plow. The prairie grass at home in its beauty and strength, often tall enough to hide a man on horseback, but finally weakened by old age and biting frosts, tumbled down in a mass sufficient to choke the water ways and shade the ground. Consequently streams were longer drying up; pools were larger and more frequent and ponds dotted the land; heated air drank from their surface and returned in such copious showers, that the question was how to plow so as to get rid of surplus water, and high rolling land was preferred.

All this has changed. The prairie grass, like the Indian, has faded before the white man's touch. The ponds have dried up and holes in the creeks where fish used to disport themselves scarcely contain water sufficient to satisfy the cravings of thirsty cows. There is now more danger from a semi-arid condition during the growing seasons than ever from surplus water. The quantity the soil and sub-soil is capable of holding and giving up for the use of plant life, under favorable circumstances, should be more thoroughly understood.

Thanks to the thoughtful minds who have studied and are still studying to blaze the way so that we may follow up and utilize the facts they have or may bring to light. What can be more strikingly impressive than the experiments of Professor Hunt, as given by Professor Burrill on page 115, of Horticultural Report for 1887, with the two cans? The uncultivated evaporating or giving up within a fraction of double the amount of the cultivated one.

That experiment ought, as it were, to burn itself into the mind of every horticulturist and farmer.

The year 1854 will be remembered as an exceptionally dry one. Corn only grew a few inches high in large sections of the country.

Orlando Burrill, present sheriff of White County, planted that year forty acres of corn, and abandoned all but thirteen, and his father advised him to abandon that, as he would only be throwing his work away; but having nothing else to do he tended it every week. He not only had corn, but good corn — more than was raised in all the balance of the township.

Every effort should be made not only to catch and hold the summer showers, but to utilize all the soil and subsoil has in store

for us. Consequently almost level land, with comparatively flat culture seems best.

The disk harrow, where crops are not raised, will be found admirably adapted to pulverizing the ground and keeping it in good heart for the trees.

The theory that has come up to us from the dim past, that if man expects intellectual strength, long life and good health, closely related relatives must not marry, seems to hold good in lower life. The Wilson strawberry must fertilize the Crescent for best results; and different kinds of plums promiscuously set it is thought give better returns than where only one kind is grown.

In 1861 we planted one thousand apple trees as follows: commencing on the east side of forty acres, running clear across north and south, first, 200 Little Romanites; second, 200 Wine Saps; third, 300 Janets; fourth, 100 Ortleys; fifth, 100 Kings; sixth, 100 Tallman Sweets.

In 1863 we set 500 Ben Davis. Forty of the Little Romanites had died, and a few of the others. A survey of the land showed room enough for a row on the south end. After planting that row, and filling in where the others had died, we set the balance, eight rows deep, on the west side. Our experience has been that the end row and those used to fill in bore more and finer fruit than the average in the solid block.

We did not suspect the cause then, nor do we know it now as a positive fact, but our belief is about as eight is to seven (which for all practical purposes, on a certain noted occasion, was considered very near a certainty) that crop fertilization did it.

We have ten acres set entire with Ben Davis, eleven years old. It never has borne a full crop of perfect apples.

Henry Ray planted in 1865 six acres, about two-thirds Ben Davis on the north, the balance on the south consisting of Wine Saps, Janets, and Rhenish Mays. It produced several fine crops. In 1871 he set several acres adjoining on the east side, solid Ben Davis. That orchard never has borne a satisfactory crop, and is now on the decline.

What avails thoughtful selection of site, and careful cultivation, if our trees are rendered constitutionally weak and short-lived, not by a survival of the fittest, but by a long line of selecting seed, for raising stock to graft on from the poorest fruit, if seed for stock is mainly procured from cider presses? May we not confidently look in that direction for the cause of lost vitality? In my opinion J. G. Vaughan, in his paper published on page 4, Vol. 20, of Horticultural Report, struck the keynote in condemning the practice of procuring seed from cider presses and vinegar factories.

At the following meeting, held at Princeton in the fall of 1887, Prof. T. J. Burrill, of Champaign, and C. N. Dennis, of Hamilton,

read essays on the influence of scion on stock, and stock on scion, presumably in answer to the Vaughan article.

While Dennis's emits no uncertain sound, Burrill's seems to the unscientific mind a little like the oracles of old — a foot on opposite sides of the fence while neither touches — for, in conclusion, he says: "It therefore seems that we may at least render a Scotch verdict upon the question, and say 'not proved.' At the same time we cannot deny the possibility of the occurrence, at least in some exceptional instances, of a radical constitutional change in either stock or scion, from an influence exerted by the one upon the other." Yet in the body of the article he says, "that life is a property of solid rather than liquid matter, hence it is impossible that living protoplasm should be carried through plant tissues with the ascending or descending sap."

No more does the mother in animal life take up the living protoplasm, and pass it through her veins with the ascending and descending blood. But in that case a third party is formed, who suffers by the taint which either party may have inherited. Suppose animal life could be extended by grafting the body of one on to the foot of another. Would anyone imagine for an instant that the ascending and descending blood would not be affected by coming in contact with a cancerous foot? Would not the ascending and descending blood carry and distribute the disease, and affect the whole system? Would we go to the hospital, the cider presses, for the foot? Is there such a thing as blood poison? What is sap but the blood of the plant?

Further on he says: "It is, perhaps, necessary here to again exclude the mere changes in vigor shown by plants on different stocks."

That is just what is not intended for him or anyone else to do. The whole discussion is like the play of Hamlet with Hamlet left out. But he helps us out, for he adds, "The stock and scion do have reciprocal influence in the matter of nutrition, and the peculiarities of growth, fruitfulness, and the like." Exactly! That is what is claimed; and had he stopped right there we would not have been in so much doubt as to his views. But after citing numerous cases to prove the truth of the above, he adds: "The fact is, in the ordinary methods of propagating apples and pears, we confidently proceed upon the assumption that the stock has no real or essential influence upon the scion, otherwise it would be impossible to keep true by present methods, any variety of fruit by grafting or budding. The thousands of seedling stocks on which the Yellow Bellflower has been grown would surely have spoiled the variety if each modified in the least the characteristics of the scion grafted upon it."

That line of argument would seem to say, that because the fruit is not thought to be changed, the constitution of the tree must remain unaffected. In this we are liable to be deceived. While the

fruit is easily seen, tasted, and tested, although it may and does change, it is so gradual that we become educated to it.

It is difficult to get into the seed and grasp the latent power that will stamp the plant or tree with long or short life. Yet experience teaches it is there.

It is difficult to look into the inner life of trees and see their constitution weakened by coalescing with short-lived roots. And it is still more difficult to see a scion cut from a tree thus weakened sending down its defects to others still to be grown. Yet, if it was in animal life, few of us would doubt its being done.

The wondrous thing called protoplasm, the real germ of life, biologists know no essential difference between it in plants and in animals.

While in animal life, notably the horse, we pay every attention to hereditary descent, so much so that a pedigree is kept, showing a long line of ancestors noted for durability, etc., yet in plant life, in propagating pears and apples, the Professor, in effect, says we "confidently proceed" to do no such thing. Think of getting a pedigree of seed from a cider-mill. What a wind-broken, blear-eyed, blinkey-eyed, raw-boned, knock-kneed, splinter-shanked record they would have.

Yet they are the chaps you and I buy, after the nurseryman has "confidently proceeded to put a head on them," and made them look presentable. Is it any wonder they freeze to death in winter and starve to death in summer?

C. N. Dennis, in his article, says: "Vaughan condemns the procuring of seed from cider presses," and answers: "Who does or can know anything about the hardiness of a seedling until it is tested," etc.

I apprehend Judge Vaughan was striking at the whole system of obtaining seed from imperfect fruit, not whether a particular seed might or might not produce a hardy seedling.

Again Mr. Dennis says: "A good stock is good, even if it did come from a cider mill." With all due respect to everybody, may we not with equal propriety say a good pig is good even if its sire was a hazel splitter and had a consumptive cough. And "who does or can know anything about" the quality of his progeny until they are tested. But do thoughtful men take chances in that direction?

Surely those men know the kind of fruit that is taken to the presses. Are the ones that grow on thrifty twigs out in the open air, who blush at being kissed by the god of day, while the bloom of rosy health mantles their cheeks,— are they the ones that are dumped by the cart load at the cider presses? Are they not the ones that, for some reason, have not come to perfection? Perhaps the scab has marred their beauty, or they are dwarfed in size by a brother's greed; or have grown in the shade and been rendered

sickly for want of sunlight and air. Are they not the ones that are mainly taken there?

Why not plant little green potatoes? Why go through the corn hunting the finest ears? Why take the fairest fruit of the vine from which to obtain seed to propagate their kind, and ignore the very law of nature which causes us to do it when selecting fruit from which to obtain seed to build our orchards on?

We may work and double work, cross the ocean, and search in every land an ironclad to find — could one be found — bound in triple bands of steel. This wholesale poisoning at the fountain head would, in time, burst the bars and assert itself.

J. V. Cotta, in the discussion which followed the reading of those essays, said: "Last year Mr. Vaughan was pitted against me on top working. Now, in our commercial nurseries, all the apple seeds come from the cider mills." We can only get hardy trees by getting hardy stocks, "it makes little or no difference as to the root."

Mr. J. A. Spear says: "I give no care to the root!"

There is not a shadow of doubt but that those men are honest in their views, but in going to the cider mills for their seed they ignore the law of hereditary descent, which, unfortunately, the whole human race has given too little heed to.

The scientists of to-day believe that vegetable and animal life are so closely allied that the same law of nature to which one must bow the other will have to obey. But the masses, who pay so little regard to the transmission of their own defects, will be slow to believe it possible in vegetable life.

I as firmly believe that obtaining seed from cider mills lies at the base of the cause of the short lives and unfruitfulness of our trees as that the earth is lighted up by the sun. I am borne out in this by some of the illustrious men who have "gone before."

Barry, in his "Fruit Garden," published in 1858, pages 60 and 61, uses the following language: "It scarcely admits of a doubt but that the greater part of the difficulties met with in fruit-tree culture, as maladies of various sorts, unfruitfulness, etc., are induced by careless and an undiscriminating system of propagation. The stock has a most important influence on the health, longevity, fruitfulness and symmetry of trees. And it does not seem possible that our indiscriminate mode of saving seed for stock is at all consistent with rational, intelligent culture." But he seems to have indulged in the hope that the danger would soon pass, for he adds: "A discriminating spirit is already becoming apparent among the best classes of cultivators, and their example will soon be felt." Has that hope been realized? Let our dead orchards and faded hopes answer.

O. B. Galusha, in his address as president, gave utterance to the following pointed sentences,— page 740 of "Horticultural

Reports" for 1861, 1862, 1863, 1864: "I allude especially to the fixed law of the hereditary transmission of diseases and so-called constitutional biases. While the strict observance of this law is regarded as of the utmost importance in the rearing of animals, yet it is either repudiated or almost entirely disregarded by a large proportion of the propagators of trees and plants. Yet this law is universal in its application and inflexible in its nature in the vegetable, as well as in the animal, kingdom."

J. L. Budd, on page 263 of the "Transactions of the Iowa Horticultural Society," in 1878, says: "Thomas W. Field, one of the most careful writers upon the pear, remarks: 'It is surprising that so little attention has been paid to the perfection of the seeds which form the germs of our pear trees. After abundant experience I am satisfied that not half of the pear seed sown vegetates, and of those that do, not more than one-fourth produces healthy stocks; and that of the hundreds of thousands of trees sold from the nurseries, not one in five reaches its tenth year.'"

If our trees are to be saved from slow, but sure, destruction, those that are interested must keep the words ringing in the ears of people, that obtaining seed from imperfect fruit to build our orchards on will have its effect as certainly as conditions favoring consumption is transmitted from sire to son.

REPORT OF THE COMMITTEE ON ORCHARDS.

BY F. I. MANN, GILMAN.

The problems which meet a breeder of live stock have received considerable attention and the results have been of marked benefit. The laws governing hereditary development have been studied, and applied by man to reach artificial results. The success of a breeder depends largely on his knowledge and the application of these laws in the reproduction of animals. The breeder has given him the ovule from which he is to develop the new individual. We may consider this ovule as having fixed tendencies and characteristics, inherited from the parent. The study of the breeder is to know what affects the development of this ovule, and to understand the methods by which it can be affected. Of course this is mostly through the means of the other parent, or the sperm, which, like the ovule, has its tendencies and characteristics fixed. It is, then, the influence of the sperm upon the ovule that decides the characteristics of the new individual, and which the breeder has to consider. I have assumed that the sperm and the ovule have fixed tendencies. That is, the tendency of animals to perpetuate their own individuals. If this tendency was not a fixed one, scientific breeding could not exist; results would be haphazard and guess work, and it is this element that gives value to the family or breed for the stock grower. The

relations existing between the sperm and ovule seem to depend largely on these tendencies. They must not be too widely separated, nor yet too closely allied, in their characteristics. There must exist an affinity between the two. If too wide apart there can be no new individual formed, and if too much alike, either no new individual or a deficient one. Nature seems severe in compelling compliance with these demands.

As I have said, the laws of breeding have been more generally observed in connection with live stock improvement, but, do not the same laws hold true in the vegetable kingdom. Have there not been made as great improvements through breeding in some lines of vegetables and flowers, as there have been in horses or cattle. Many of the flowering plants show the breeder's skill and study. And the modern tomato and cabbage are not much like those of years ago. Most of these improvements have been made through successive generations until a type had become fixed, and then you have sperm and ovule with the fixed tendencies and characteristics, and can proceed with intelligence to a greater degree of excellence.

But how is it in the orchard? Have we there any pollen or ovule with fixed tendencies? Do we know anything about what a Ben Davis ovule and Willow Twig pollen will give us in a new individual. If a Ben Davis had been produced by a long line of breeding, where its characteristics were more firmly fixed each succeeding generation, we could then then know just what were the tendencies of the ovule. Then if we had pollen from a Willow Twig bred in the same way, we could tell very nearly what our offspring would be. But most of our orchard fruits were not formed in this way. They were accidentally bred, apparently sports, where quality ruled. Is not the time coming when we will be compelled to have these fixed characteristics to work with to secure the features needed in a new individual for the orchard?

In live stock breeding we have to consider only the influence of the sperm upon the ovule and do not calculate that the male parent affects any more than the developing ovule. But in the vegetable world there is another feature in connection with the fertilization of the ovule, and to bring it to your minds was the object of this paper, and for which the preceding was intended to be explanatory.

It is the influence of the pollen extended beyond the ovule into the fruit. Is there such an influence extending into the ovary; the receptacle and even into the parent itself? Many varieties of strawberries show either an absence of pollen, or that the pollen that is supplied is lacking in affinity for the ovules. These varieties are called pistillate and we supply pollen from some other variety to obtain a thrifty and profitable growth of the berries. But of what use is the pollen at all? The berry is but the developed receptacle for holding the seeds, or the true fruit. Is it necessary that the

ovules of these small seeds have the action of pollen that there be a development of the receptacle, generally considered an independent part of the plant? If not necessary why do we plant staminate varieties with pistillate varieties, and if necessary, what do we gain by so planting? The modification of the form of the strawberry directly from the pollen, is a matter in which there is a conflict of opinions. Experiments made in a number of recorded cases, did not show any marked difference in the fruit from the use of different varieties of pollen on the same pistillate variety. My own observation with several acres of Crescents, a part of which was fertilized with Captain Jack and a part with Wilson's Albany, was that there seemed to be more or less of a modification of form from the pollen. I could not say that there was any decided influence in a large portion of the berries, but that there was, in some of them, such a modification I believe. Many other fruits also seem to show occasional slight modifications.

But even if this influence was a strong one, could we expect any definite results from the parents that we use. Strawberries and most other fruits, like apples, have pollen and ovule without fixed characteristics, and have but a slight tendency to reproduce their own qualities; and we should no more expect certain results from them, than from animals of mixed blood.

If there is any direct modification of the fruit as to size, form and quality, it seems to be so slight as to be of little importance to us, only as it indicates another influence from the pollen. In the production of a new individual the element of first importance is its vitality. That is, its desire to live. Its ability to resist adversity, whether in form of bacteria, or some other enemy that may be invited by some fault in its environments. This vitality does not depend upon vigor of growth, nor complete functions. The man who lived through untold agonies in Andersonville prison, who amputated his feet himself and sawed off the bones with his jack knife, had probably no better functions than many of his comrades who died with first symptoms of gangrene; but he had more vitality. The plum that matures with the mark of the little Turk upon it seems to be different in no respect from the one that drops undeveloped, but it has more vitality. A morning that blights one strawberry, may not another.

This element of vitality seems to depend largely on the proper observance of Nature's laws in reproduction. I consider one of the most important of these is that there be a variation in the tendencies of the pollen and ovule. To get this variation it is better to use pollen from another individual than the one that furnished the ovule. As the development of the fruit—the receptacle or ovary—depends upon the fertilization of the ovule, the vitality of the re-

ceptacle or ovary seems to depend upon this vitality of the ovule; and hence fruit containing developing ovules of strong vitality can resist attacks of enemies better than fruit with a weak ovule. Then if we can learn to govern this influence of the pollen, through the science of breeding or the laws in reproduction, we will have enlarged our capacity in the production of fruits of high quality. The seeds of fruit must be fertilized or the fruit will not develop. Apples having seeds not fertilized, drop when they have reached a certain stage of development. If they have to be fertilized at all, will not a fertilization in accordance with known laws prove more beneficial than an accidental fertilization? Does it not give increased vigor and stronger development?

One stalk of corn grown alone and distant from any other will give a marked illustration. It shows a moderately well developed cob, some weakly developed grains, and some grains not developed. Those partly developed indicate that the pollen and ovules were so closely allied, being from same individual, as to cause a deficient development; and those grains undeveloped indicate an entire absence of pollen, or pollen so closely allied that there was no affinity between it and the ovule. In either case there was no strong vitality resulting from the action of the pollen. If there was no influence extending beyond the ovule, why would not the ovary, or the grain, develop as well, without the action or the pollen? In the case of corn the apparent and imperfect mixing of varieties the first season seems to be an evidence of only an influence beyond the ovule, as the true mixture is in the ovule and not fully apparent till the succeeding generation.

For several years I have noticed our best apples of several varieties were from trees where the varieties grew contiguous. Among these were English Golden Russet and Roman Stem, that stood with limbs interlocking between the parallel rows. The finest specimens of these varieties were taken from these limbs, and many of them showing a tendency to approach the other variety in characteristics. Not but what Roman Stems were taken from Roman Stem trees and Russets from Russet trees, but there was a slight tendency in each one to approach the other, enough to excite the question whether this mixing of blood was not responsible for the better appearance of the fruit and the greater apparent resistance to its enemies. On trees of Maiden Blush and Fameuse standing near together we have for several seasons obtained better fruit than from same varieties standing by themselves, though I have been unable to detect any difference in the appearance or thriftiness of the trees, to which it might be due.

If there is this influence on the fruit, due to cross fertilization, we can use it in the orchard to remedy much of the inferior quality

of the fruit, by planting the trees so as to give the greatest opportunity to the foreign pollen. Instead of setting trees of each variety together, mix as far as possible with other varieties with somewhat similar characteristics.

I am aware there are among fruits many cases where fertilization does not seem necessary, and in which there is no development of seed. We have seedless raisins, grapes without seed, the banana, the navel orange, etc. In these cases there may be fertilization, but if so the influence of the pollen is all extended beyond the ovule into the fruit. If there is no fertilization it is evident that the fruit develops without any influence from the seed. Fruit that does develop without having seed, seems to grow in the most perfect environments — conditions that require but little resistance to enemies, and where less vitality is needed than under less favorable conditions. Grapes within a paper bag do not have the enemies to resist, that grapes without a paper bag have. The seedless raisins, bananas, etc., grow in perfect climatic conditions, and do not have the enemies that fruit grown under imperfect conditions have. A cry in Florida is "what is the matter with navel oranges that they do not bear better?" Because some fruit will develop without seed it does not follow but that they might prove stronger if they had them.

Mr. Augustine — I have this criticism to make on Mr. Cope's paper. He has told us that seed from the cider-mill should not be planted, but has not told us of a better way to procure them. Thousands of bushels are planted annually, and if we go to the orchard and select seed from the best fruit, it will be a slow and expensive process.

Col. Brackett, of Iowa — This question of stock and scion is an old one. As a rule we should select the best seed for planting, but it is well to bear in mind that when we graft we change the whole structure. Take a lot of seed from a cider-mill and graft the young seedlings with Duchesse and they will be alike hardy, but plant seed of the Duchesse and graft with a tender variety, and the trees will all be alike tender. Hence, we see that if the scion is hardy, the root has little or no effect.

Mr. Cope — Mr. Augustine says where shall we get our seed? Everything that is first-class costs something, and first-class apple-seed will be no exception to the rule. I know of an apple tree fifty-six years old that is healthy and productive, and am very sure that seed taken from it would make better and more hardy trees than

those taken from a tender tree. We are told that the root has no influence on the tree, but as we cannot grow a tree without the root, I am unwilling to believe that it does not affect its health and longevity.

Mr. Murtfeldt — Many years ago I was a resident of Illinois when I attended these meetings quite regularly. This discussion brings to my mind the meeting at Peoria, where these very questions came up. A very severe winter had killed many of the grafted trees, and the question of planting seedlings was seriously discussed. It now seems to be generally understood that the character of the tree is fixed by the scion and that the root has little or no controlling influence.

Mr. Dennis — In the animal kingdom we find imperfect individuals among the best breeds. So in the vegetable kingdom. But will the seed from an apple that has been stung by an insect and thereby made one-sided and imperfect, be less suitable for planting than seed from a perfect specimen ? Graft a thousand Duchesse on a thousand different roots and they will all be Duchesse.

Mr. Minkler — We expect too much of our orchards. We seed them to blue grass and make a pasture of them and expect them to produce fruit. Examine the ground after a rain and you will find that it is wet but an inch or two; but go to the cultivated field and it is wet deeply. Don't plant too many varieties; don't plant Russians, but plant intelligently and cultivate carefully and you will grow as good fruit as you did twenty years ago.

Mr. Vaughan — The last reports of our Society may be compared to the Lamentations of Jeremiah, as they are a record of disappointments and losses. And we should carefully look for the cause of these failures and losses. Mr. Augustine says seedlings are not always hardy, as he has lost thousands of them in his nursery. This is all true, but I have eaten apples from trees over fifty years old and think that seed from this fruit will produce a better tree than from that grown on a short lived tree.

Mr. Webster — I have talked with men who think we can propagate a variety forever without loss, but I think there is a constant tendency to revert back to the original type. Mr. Cope says the Ben Davis is not what it was years ago, and it may be accounted for on this theory.

Col. Brackett — We should discriminate between growing seedlings for fruit and stock. If for fruit we should select seed from the best fruit and hardiest trees, but if for stocks, it makes but little difference about the parent.

Mr. Vaughan offered the following resolution :

Resolved, That this Society condemns the practice of propagating trees from seeds of any but varieties of known hardiness.

Resolution laid on the table. Adjourned.

TUESDAY AFTERNOON.

The President called the house to order at the appointed time and requested Miss Josie Collins to favor us with the promised selection of music, after which he proceeded to deliver his

ANNUAL ADDRESS.

BY H. M. DUNLAP, SAVOY.

One short year ago this society convened in the city of Princeton and elected one of its veteran workers, Mr. Milo Barnard as presiding officer for the ensuing year.

It was an honor well earned and cordially bestowed. Always an active member, Mr. Barnard entered upon the duties of his new position with characteristic energy and enthusiasm. His plans for the year were well laid and active work begun when death summoned him from his labors here to a beautiful home in the garden of Paradise. To others more able have been assigned the privilege of bestowing a fitting eulogy upon the life of Mr. Barnard. In his death our society has lost an efficient worker, an able presiding officer and the cause of horticulture an enthusiastic teacher.

The loss of Mr. Barnard brings forcibly to our minds the fact that to make this Society effective and perpetual, younger men and women who are interested in horticultural work must come forward and lend their earnest efforts toward success by becoming active workers and members of this Society. This meeting will witness a

departure in this direction in the devoting of one whole session to the younger members. I trust their interest will not stop there but continue through all the sessions and manifest itself by an active part in the discussions.

The past season has its lessons, and not the least of them is the renewal of faith in fruit growing by the people of Central and Northern Illinois, caused by the bountiful crop of fruit, especially of apples, in those sections of the State. A remark in open meeting by a prominent member of this Society that the "people in Central and Northern Illinois would have to depend on Southern Illinois in the future for their apples," seems to have been rather premature. The good effects will be seen in the increased number of trees that will be planted this coming spring. In view of this fact we can see the importance of recommending, so far as practicable, a good fruit list at this meeting for the several districts of the State, as a guide to the planter. A committee might be appointed to report such a list to the Society for discussion.

The most important matter of the year is the beginning of horticultural experiments at the State Experimental Station at Champaign. Each of the three important agricultural interests of the State, viz: the Horticultural, Agricultural and Dairying interests have a representative on the board of directors of the station. This action of the Board of Trustees of the University of Illinois in securing the coöperation of these Associations was a wise one, and deserves the thanks of this Society for recognizing the importance of horticulture in the State and the State Society as the representative of that interest. The importance of this work to the fruit grower can scarcely be overestimated, and when the subject comes before the Society, through the report of the committee, I trust it will receive the attention it deserves. The horticultural part of this work should receive the cordial support of this Society and the individual members. Instead of paying fabulous prices individually for every new variety that comes forward, they should be referred to this station for testing and the fruit grower could demand of the "meek and lowly" tree agent a certificate of character from this station before investing two dollars in his ever-bearing strawberry, curculio-proof plum or iron-clad apple. The reputation of this experimental station should be such as shall commend it to the fruit growers of the State. Let the experiments carried on be of live, practical questions, and not of dead issues, and success is assured.

The many questions of interest to fruit growers are well covered by the programme and I will not trespass upon your time further.

This Society has now completed a third of a century of its history and it is a history of which its members may well be proud. Here in the city of its first inception it has come to hold its thirty-third annual meeting; here where it began to creep it has come as a

stalwart man back to the old home of its infancy. May it go forward to as great success in the future as it has achieved in the past.

Mr. Minkler—During the year we have lost two valuable men, Milo Barnard, President of the State Society, and D. W. Scott, President of the Northern Society. I move that a committee be appointed to take proper action in relation to their death.

Motion adopted, and Mr. Minkler and Mr. Mortimer named as the committee.

Mr. Minkler—I think that Indiana and Ohio are now holding their annual meetings, if so, I move that the greetings of this Society be telegraphed them. Carried.

SECRETARY'S REPORT.

BY A. C. HAMMOND, WARSAW.

It is our pleasure to assemble here, on the banks of the "Father of Waters," in the goodly city of Alton, noted throughout the land for the superior quality of its fruit, and for having been, and still being, the home of some of the most successful horticulturists of the age, to hold our thirty-third annual meeting.

We assemble with every assurance that the meeting will be of more than ordinary interest and the attendance larger than usual. The year has been one of more than ordinary prosperity and we meet to-day under very favorable circumstances, yet we are saddened by the thought that our honored President has gone to the spirit land, that we shall miss his pleasant face and cordial greeting and no more profit by his wise counsel, yet we have special reason to be thankful that his mantle has fallen on one so willing and capable to take up the work and carry it forward.

Our last volume—No. 21— was issued more promptly than any previous one. The Secretary by remaining in the office and doing the necessary work there and employing a proof-reader to read proof at the office of publication, was able to put it in the hands of readers the tenth of February, fifty days from the close of the meeting. Judging from the numerous commendations received I think this prompt publication very satisfactory to the members of the Society as well as other readers and that it is the universal wish to have the forthcoming volume published just as promptly and I know of no reason why it cannot be done. The Messrs. Franks, as usual, gave us a carefully printed, well bound and handsomely finished book.

At the time of the Springfield meeting of the Executive Board we had a conference with Gov. Oglesby relative to the proper time for and best method of observing "Arbor Day." As a result of this conference the Governor, by proclamation, appointed the 13th of April as Arbor Day. This Society followed the proclamation with a circular which was distributed throughout the State, and sent to every paper published within our borders, calling attention to the importance of the work, and naming lists of trees suitable for planting in parks, lawns, streets, county roads, school-house grounds and cemeteries.

Judging from the published reports of its observance and the great number of private letters I have received relating to the matter, I am sure that the work of this Society caused the planting of hundreds of thousands of trees in school and church yards and cemeteries, as well as about the farm and village homes of our people.

This question of tree planting upon our public grounds and highways and about our rural homes, as well as other methods of ornamentation, is the legitimate work of this Society, and it is doubtless our duty, with each returning spring, both by precept and example, to do all in our power to make the day a success.

As I said a year ago, so I say again, that we should do some earnest work in the way of distributing our publications and extending our influence into those portions of the State that have no knowledge of the objects and work of this Society; and possibly you may think it an exaggeration when I say that more than half of the counties of the State, and some that boast of tens of thousands of dollars invested in orchards, are never represented at our meeting and never see our "Transactions"; and you may be still more astonished when I tell you that I have conversed and corresponded with men who have thousands of dollars invested in fruit-growing who scarcely know that there is such an institution in existence as the State Horticultural Society.

Something should be done to learn more of these fine fruit regions and secure their coöperation and assistance. This work properly belongs to the *ad-interim* committees, but they are, of course, composed of practical horticulturists, who can give but a limited amount of time to the work. The only remedy I can suggest is to make the committees larger and divide the work.

When we can properly do this work an interest will be aroused in the objects of the Society that will result in planting orchards and small fruit plantations and gardens, as well as in encouraging every description of ornamental work, thus adding greatly to the wealth and beauty of the State, as well as the health and happiness of our people.

In attempting to do this, as well as many other branches of our work, we find ourselves hampered for means. Some of our own people fail to realize the fact that Illinois is a state of vast proportions and wonderfully diversified soil and climate, covering an area of six degrees of latitude ; that in the extreme north only the ironclads will succeed, while the southern portion is the favorite home of the peach. They do not seem to understand that this great Empire State of the West, with its millions invested in commercial fruit growing, with its hundreds of thousands of farmers who do not yet realize the importance of supplying their families with fruit and vegetables, and its hundreds of thousands of rural homes that lack those elements of a perfect home,— an orchard, garden, a well-kept lawn and shade and ornamental trees, requires a larger outlay of means to properly do the work expected of a Society like this than a State of one-fifth or one-tenth of our area and with a homeogeneous soil and climate.

The sum that has been annually appropriated to our Society by the State would probably be ample for some of the smaller States, but is totally inadequate for Illinois.

I have heard the remark made by members of this Society that our taxes are high, and we must be careful about burdening the farmers, who pay most of the revenue. All very true, but did it ever occur to you what an enormous burden it would impose on the 400,000 families of the State if the legislature should grant us an appropriation of $5,000 per annum,— which we need. Why, if we do not take into consideration the other taxable property of the State, but assess the whole amount on these 400,000 families, it will actually cost them a cent and a quarter apiece.

I have every confidence that if we ask the incoming legislature for an appropriation sufficient to publish ten or twenty thousand copies of our report and do other important work — if presented in a proper manner and followed up with energy — it will be granted.

The Society is under special obligations to the Illinois Central and Wabash Railways for passes, by means of which the *ad-interim* and other work of the Society has been done at a very small expense ; and if other railroads would exercise the same far-seeing policy it would be increasing their business and enhancing the value of property along their lines and add greatly to their profits.

Since my last Annual Report the following orders have been drawn on the Treasurer :

Dec. 15,	1887—Appropriation to Northern Society	$ 50.00
Dec. 14,	1887—E. A. Riehl, expense of Board Meeting	27.35
Dec. 14,	1887—J. S. Browne, expense of Board Meeting	27.15
Dec. 14,	1887—T. E. Goodrich, expense of Board Meeting	20.51
	Amount carried forward	$125.01

		Amount brought forward	$125.01
Dec.	14,	1887—J. S. Browne, expense *ad-interim* work	26.70
Dec.	14,	1887—H. K. Vickroy, commission	47.72
Dec.	14,	1887—A. C. Hammond, expense Board Meeting	23.61
Dec.	14,	1887—A. C. Hammond, bill of Secretary	195.60
Dec.	15,	1887—W. R. Crain, premium	40.00
Dec.	15,	1887—C. B. Rockwell, premium	41.50
Dec.	15,	1887—J. T. Johnson, premium	20.50
Dec.	15,	1887—E. W. Bryant, premium	4.00
Dec.	15,	1887—L. R. Bryant, premium	12.00
Dec.	15,	1887—Jacob Auer, premium	7.00
Dec.	15,	1887—J. S. Browne, premium	9.00
Dec.	15,	1887—F. W. Poscharsky, premium	7 00
Dec.	15,	1887—A. H. Gaston, premium	.50
Dec.	15,	1887—F. C. Johnson, premium	4.00
Dec.	15,	1887—Charles Patterson, expense bill	14.75
Dec.	15,	1887—Bessie M. Nash, Assistant Secretary	20.00
Dec.	15,	1887—E. A. Riehl, premium	45.00
Dec,	15,	1887—Delano & Son, premium	10.00
Dec.	15,	1887—D. H. Gray, expense Board Meeting	4.68
Dec.	15,	1887—C. N. Dennis, expense Board Meeting	12.09
Dec.	15,	1887—A. C. Hammond, premium and *ad-interim*	53.00
Dec.	15,	1887—Len. Small, expense Board Meeting	14.55
Dec.	15,	1887—S. F. Conner, premium	3.00
Dec.	15,	1887—J. T. Johnson, reporting	20.00
Dec.	15,	1887—J. Webster, special premium	8.00
Jan.	6,	1888—D. H. Gray, expense Board Meeting	13.57
Jan.	6,	1888—J. S. Browne, expense Board Meeting	9.50
Jan.	6,	1888—C. N. Dennis, expense Board Meeting	11.83
Jan.	6,	1888—Milo Barnard, expense Board Meeting	13.80
Jan.	6,	1888—E. A. Riehl, expense Board Meeting	11.35
Jan.	6,	1888—A. C. Hammond, expense Board Meeting	14.55
Feb.	4,	1888—Bessie M. Nash, expense proof-reading	40.30
Feb.	4,	1888—J. W. Franks & Sons, printing	500.00
Feb.	4,	1888—Phil. Dallam, printing bill	21.75
Feb.	4,	1888—C. N. Dennis, cash advanced	7.65
Feb.	14,	1888—J. W. Franks & Sons, printing	316.74
Feb.	14,	1888—A. C. Hammond, cash advanced	71.30
Mch.	21,	1888—Phil. Dallam, printing	11.75
Mch.	21,	1888—A. C. Hammond, cash advanced	18.00
May	31,	1888—Phil. Dallam, printing	4.45
June	14,	1888—A. C. Hammond, salary	150.00
Sept.	5,	1888—S. F Conner, appropriation Southern Society	50.00
Sept.	5,	1888—Frank Heinl, appropriation Central Society	50.00
		Total	$2,085.75

The expenditures and receipts of the Secretary's Office has been as follows:

EXPENDITURES.

Postage on Premium Lists	$ 2.50
Postage on Books	29.52
Postage on Circulars	13.50
Postage on Programmes	6.00
Letter Postage	23.00
Postage on Stationery	.76
Postal Cards	4.00
Wrapping Paper, Twine, Registering Packages	3.50
Expense, Trip to Peoria	11.65
Express on Books	.70
Express on Copy	1.20
Express on Exchanges	9.10
Express from Peoria	.50
Express on Order Book	.25
Freight and Drayage	7.95
Shelving and Curtains for Library	19.80
Box for Books	.35
Trip to Chicago	18.00
Trip to Griggsvile	2.85
Entry Book	1.20
Telegrams	2.46
Incidentals	4.45
Office Help	50.00
Salary	300.00
Stationery	5.00
Postage on Books	.30
Railroad Guides	.75
Express on Books	1.10
Total	$520.39

RECEIPTS.

Feb. 14—Order 357	$ 71.30
Mch. 21—Order 2	18.50
June 14—Order 4	150.00
Membership Fees	17.00
Total	$256.20
Balance due Secretary	$264.09

TREASURER'S REPORT.

H. K. VICKROY, Treasurer.

In account with the ILLINOIS STATE HORTICULTURAL SOCIETY.

RECEIPTS.

Dec. 15, 1887—To cash—Balance		$ 641.99	
Dec. 15, 1887— " " Membership fees and badges		122.15	
Dec. 15, 1887— " " State Appropriation		2000.00	
Dec. 15, 1887— " " A. C. Hammond		18.00	—$2,782.14

DISBURSEMENTS.

	No. of Order.		
Dec. 15, 1887—J. S. Browne	319, 320	$ 53.85	
Dec. 15, 1887—A. C. Hammond	322, 323	219.21	
Dec. 15, 1887—James T. Johnson	344	20.00	
Dec. 15, 1887—E. A. Riehl	318	27.35	
Dec. 15, 1887—Lan. Small	342	14.55	
Dec. 15, 1887—D. H. Gray	340	4.68	
Dec. 15, 1887—C. N. Dennis	341	12.09	
Dec. 15, 1887—J. S. Browne	332	9.00	
Dec. 15, 1887—A. H. Gaston	334	.50	
Dec. 15, 1887—Miss Bessie Nash	330	20.00	
Dec. 15, 1887—E. A. Riehl	—	45.00	
Dec. 15, 1887—James T. Johnson	326	20.50	
Dec. 15, 1887—A. C. Hammond	329	53.00	
Dec. 15, 1887—H. K. Vickroy	321	47.72	
Dec. 15, 1887—T. E. Goodrich	319½	20.51	
Dec. 17, 1887—Delano & Son	336	10.00	
Dec. 19, 1887—S. F. Conner	343	3.00	
Dec. 20, 1887—Jabez Webster	345	8.00	
Dec. 20, 1887—W. R. Crain	324	40.00	
Dec. 21, 1887—F. C. Johnson	—	4.00	
Dec. 22, 1887—E. W. Bryant	327	4.00	
Dec. 22, 1887—F. W. Poscharsky	333	7.00	
Dec. 27, 1887—Jacob Auer	331	7.00	
Dec. 27, 1887—L. R. Bryant	328	12.00	
Dec. 27, 1887—Chas. Patterson	337	14.75	
Jan. 14, 1888—D. H. Gray	346	13.57	
Jan. 14, 1888—J. S. Browne	347	9.50	
Jan. 14, 1888—Milo Barnard	249	13.80	
Jan. 14, 1888—C. N. Dennis	349½	11.83	
Jan. 14, 1888—E. A. Riehl	350	11.35	
Jan. 14, 1888—A. C. Hammond	351	14.55	
Amount carried forward			$752.31

Amount brought forward.....			$752.31
Jan. 14, 1888—C. B. Rockwell 325		41.50	
Feb. 13, 1888—Phil. Dallam 354		21.75	
Feb. 16, 1888—Miss Bessie Nash 352		40.30	
Feb. 20, 1888—J. W. Franks & Sons 353		500.00	
Feb. 22, 1888—C. N. Dennis 355		7.65	
Feb. 27, 1888—A. C. Hammond 357		71.30	
Feb. 28, 1888—J. W. Franks & Sons 356		316.74	
Mch. 5, 1888—L. Woodward .....—		50.00	
Mch. 22, 1888—A. C. Hammond.....	2	18.00	
Apl. 14, 1888—Phil. Dallam	1	11.75	
June 17, 1888—Frank Heinl.....	6	50.00	
June 18, 1888—Phil. Dallam	3	4.45	
June 25, 1888—A. C. Hammond	4	150.00	
Sept. 13, 1888—S. F. Conner	5	50.00	—$2,085.75
Balance			$696.39

Respectfully submitted,

H. K. VICKROY, *Treasurer.*

Mr. Riehl—I move that the reports of the Secretary and Treasurer be referred to the Executive Board. Motion adopted.

FARMERS' KITCHEN GARDEN.

BY G. W. M'CLEUR, CHAMPAIGN.

It is an old and familiar saying that "distance lends enchantment to view," and it may be for this reason that the work of taking care of a kitchen garden does not seem invested with the same terrors that it must have had to me when I was not big enough to plow, but was big enough to pull out weeds in the garden where they were, to the best of my knowledge and belief, ten thousand weeds to one onion or radish or beet. One couldn't use a hoe because the rows were planted too close together and the plants were too close together in the row. I didn't want to pull out any plants because they were so little, that if one had been pulled out, the rest would have been lost. And there was the first mistake we made. The rows of vegetables were planted too close together and the seed was planted too thickly. It would have been better if the rows of carrots had been eighteen inches or two feet apart, instead of eight or ten inches, and if there had been two good plants in twelve inches, than twelve poor plants in two inches of row.

Weeds will grow in the garden as well as anywhere else. We used to leave the weeds because the other things were so small and there was danger of pulling out other things besides weeds. When

the radishes were big enough to be seen, we couldn't see them because the weeds were larger than the radishes. We waited then until the ground was so wet the fields were unfit to work and then pulled weeds in the garden ; they pulled easier then. The weeds do not come to the common farms alone. While looking over one of the State experiment stations this fall I happened to get sight of a kitchen garden belonging to the Professor of Agriculture, because my attendant told me so, but if there had been a watermelon in that garden as big as a barrel, it could not have been seen five rods away because of the weeds. The way not to have weeds in your garden or anywhere else is to keep them from going to seed. Of course a few seeds will be carried in, but they are not to be compared to the thousands and tens of thousands that would be produced by a few weeds left to go to seed.

Kill the weeds when they are small. It won't take long when the weeds are first appearing to go over the ground with a garden rake, and that would be all that is necessary ; but if you wait until they are larger, until the weed roots have a firm hold on the soil, it is not so quickly done. If you have planted your rows of vegetables eighteen inches or two feet apart and in rows the full length of the garden, you could take one of those cultivator harrows of changable width and cultivate with a horse. It would take much less time besides being more thoroughly done.

A good farmer will not cultivate his own corn when the ground is too wet, and the same reasons that apply to the cultivation of corn will apply to the cultivation of the garden. Cultivate often and cultivate thoroughly.

We made our garden up in beds about four feet wide and eight or ten or twenty feet long, and there were paths around every bed. This was done that the weeds might be pulled out without stepping among the vegetables to pack down the soil. We don't do that now, but plant everything in long, straight rows with room enough to walk without stepping on plants.

We planted lettuce, onions, radishes, etc., in the spring as soon as it was warm enough and the ground was in good condition to work. Sometimes there would be other plantings of these things later in the season and sometimes not. I don't think we were an exceptionally thriftless lot of people. All these little things take time, and a farmer doesn't like to lose time from the things that look big for the things that are small. The garden never brings in any money as the field of corn or the hogs that may be grown on the corn do. And in the case of a great many of us it is the money in view that is the great incentive to work. Now if the garden vegetables were to be grown in long rows so they could be cultivated with horsepower, instead of boy or woman-power, it would take much less time and be very much more satisfactory. Land is not so

valuable yet that things need be crowded. Then plant your rows of vegetables two feet apart, cultivate with a horse harrow, and make fragment plantings of such things as lettuce, radishes, beans, peas, sweetcorn, etc. Plant along one side of your garden a row of grape vines and keep them thoroughly cultivated; next beside that put a row of red raspberries, then of black raspberries, then gooseberries and currants, then three or four rows of strawberries. The strawberries, of course, are not to be cultivated after the first season for they must be mulched to keep them clean, and it hardly pays to cultivate an old patch.

If a frame could be made in some corner and covered with glass or oiled cloth, such as gardener's use, some things that are nearly hardy might be planted in them much earlier than could be done in the open ground. In this way peas and some other things could be had two or three weeks earlier than if planted at the usual time. Lettuce is nearly a hardy plant and by sowing late, say August, could be had until in November. By covering snap beans that were planted late with some old cloth, green beans could be had in many cases for at least a month after the first killing frost. It is hard to coax tomatoes to come early, but by picking off the green ones that nearly have their full size and laying them away in a dry cellar, they will ripen gradually and may be had until Christmas, though they are hardly as good as those that ripen naturally on the vine.

Do not try all the new varieties of vegetables that are offered by seedmen. Many of them will never be heard of after two or three years. The novelties in tomatoes that ripen ten days earlier than any other tomato are sure to be disappointing. Because a variety of corn has "extra" prefixed to its name is no guarantee that it is any earlier than the same variety without the extra, and adding the word "sugar" to the name will not make it any sweeter or better in any way. There have been many changes in names of watermelons, but have never seen any larger than my father raised twenty years ago in his cornfield, or any better than our neighbors raised in theirs.

Do not try to raise too many varieties of vegetables. If you have two varieties of sweetcorn or tomatoes, or most of the other things, you are better off and will be better satisfied than if you tried to raise a dozen.

Mr. Pearson — I know but little about the theory of gardening, but claim to have some practical knowledge of it. I claim that we do have better melons, and sweet corn, and peas than our grandfathers had, and that we have made some very gratifying progress in this direction. We cannot name a fruit that has been so much improved as some of these vegetables. To make a success of gardening

on the farm the planting must be in rows, and so arranged that most of the cultivation can be done with a horse and cultivator.

Dr. Hall — Where the garden is of considerable size horse cultivation can be introduced, but in small gardens, in town, it is not practicable.

Mr. Riehl — We should remember that the question before us is "Farmers' Kitchen Gardens," and not gardens in village lots. I agree with Mr. Pearson in regard to the advance that has been made in gardening, but think we need a greater variety in some lines, particularly sweet corn, that we may have a succession from the earliest to the latest. Salsify is a vegetable that should be better known, and more generally grown.

Mr. Coe — The principal reason why farmers neglect their garden is that they do not know how small an amount of money and labor is required for the purpose. If properly planted and cultivated with the improved implements an excellent garden can be had very cheaply.

Mr. Webster — A great part of garden work does not pay unless we employ horse labor and use the improved tools. I have bought a great many, some are valuable, and others worthless.

Mr. Pearson — It is a fact that the majority of farmers do not have their tables properly supplied with vegetables. This is partly because they do not know how to cultivate cheaply, and partly from lack of knowledge what to plant. I should like to see a committee appointed to recommend a list for this purpose.

Mr. Cook — I move that the chair appoint such a committee of which Mr. Pearson shall be chairman. The motion prevailed, and Mr. Pearson, Mr. Doan and Mr. McCleur appointed.

Mr. Gilham — I don't know anything about horticulture, but do profess to know something about gardening. A mule is much better than a horse for this kind of work, as he can be educated to put his foot down in the right place every time. I have raised acres of melons and kept them clean with a mule and cultivator without the use of a hoe. If you don't want weeds in the garden, don't let them go to seed. It is not very difficult to keep them down in the spring,

but in October I am afraid that even Brother Pearson will have some weeds.

Thirty-three years ago your Society held a meeting in this city, at which a list of apples was recommended for the different portions of the State, which has been worth millions to our people. You have made progress in this third of a century. You are doing a grand work, and should be liberally aided by the State.

AD-INTERIM REPORT FOR NORTHERN ILLINOIS.

BY ARTHUR BRYANT.

Having had no expectation of acting on the Ad-Interim Committee until very late in the season, and being very much pressed with other duties since that time, I have had but little time to prepare anything for a report, and must beg the indulgence of the Society while I read a few notes, which I have hastily put together.

A report like this to be thorough, means a considerable time spent in travel and a more detailed study into the matter under consideration, than I have been able to give it since the duty devolved upon me.

Consequently my remarks apply to the district in general or else to the particular locality in which I reside.

As all know, during the past few years the fruit interests throughout the Northwest have suffered severely. In many cases not only the large, but also the small fruit being affected. However, where orchards and fruit plantations were healthy, this season has been a fruitful one, and the agriculturists throughout the Northwest have had a bountiful harvest.

The apple crops has been the largest for many years, and the fruit is very much sounder than usual, on account of the codling moth not being so plentiful as formerly.

The past year has been more favorable to tree growth than for several previous seasons.

In old orchards that have had attention, the trees look better, many of them putting forth new branches.

They seem to be renewing their vigor and in most localities the major part of them have borne a good crop of fruit.

With us, both in the nursery and orchards, the leaf roller, skeletonizer and many other insects that prey on our trees, have made a marked decrease in their numbers, and have been much less destructive than usual.

In the nursery, I sprayed a part of my trees once, and some twice, with London Purple, with a view of destroying the leaf

roller and perhaps the skeletonizer, but as their work was very slight this season, I received no appreciable benefit from it.

Of the leaf roller there seemed to be no second crop.

Early in the season there were about as many as usual, and I fully expected we should have to fight them all summer; but in the fall scarcely any of them could be found. In that respect our trees being unusually clean and nice.

This was not due to my spraying with London Purple, as there were no more signs of the roller on the trees that had not been sprayed at all, than upon those which I had sprayed twice. The same was the case in my neighborhood, where orchards were sprayed for the codling moth. As far as my knowledge extends, the fruit was as sound in the orchards that were not sprayed, as in those that were attended to faithfully.

My explanation of this is; that for some reason the second crop of the apple worm failed to put in an appearance, and the result was an unusually clean crop of fruit.

However, I had one serious trouble, that checked the growth of my trees to a considerable extent, early in the summer. I refer to the leaf hopper. This insect affected the growth of my trees more than anything else, and its effect was especially noticeable on the younger ones. Old and well established trees not seeming to be injured by them.

So far as I know, no practical and effective remedy for this pest has been found.

The blight of certain varieties has damaged the orchard trees in some localities to a considerable extent, but still not as seriously as in former years. In this district, the nursery trees have not been much affected by it. In our orchards. the Willow and some of the crabs seem to have suffered the most.

My observations would not lead me to consider that high cultivation is likely to increase the liability of the apple to blight. Some of the worst cases of blight which have come to my notice, have occurred on land of ordinary fertility, that had never been highly manured or fertilized in any way.

While on a trip through Central and Western Iowa this fall, I found a great deal of this trouble in most of the nurseries in certain localities, and on some varieties it was very bad. The so-called Russian varieties seem to be the most easily affected by this trouble. No very effectual remedy has been found. Some have tried cutting out the diseased portion. To be at all effectual, I think this should be done as soon as the blight appears, and the diseased portion entirely removed, or it will avail but little in checking the disease.

This was the year for the periodical return of the Cicadæ or seventeen-year locusts. They made their appearance in a large portion of the Northern District. On old trees and where there were

plenty of branches for them to lay their eggs in, the damage done was slight, but where young trees were planted close to timber, or where an orchard had been planted on timber land cleared since the larvæ went into the ground, the trees suffered severely. I know of a few young orchards planted on such locations that were almost entirely ruined. But we have little need to fear them, their visits come so seldom, although where they do appear they sometimes destroy the labor of years.

The cold weather early in the season, and the killing of the first bloom by late frosts, made the first picking of strawberries unusually late.

These frosts and the continued dry weather while ripening, made the crop in our vicinity light, and the later pickings small. However, the general supply seemed to be ample and berries of good quality were plentiful.

Of varieties that are planted, I think the Crescent still predominates, and where well fertilized gives entire satisfaction. The lack of fertilization is one of the great causes of failures with many of the pistillate varieties of strawberries. Capt. Jack and May King are used by many as fertilizers.

One experienced planter said that in planting fourteen acres for profit, he would plant ten acres of Crescent, fertilized with May King and four acres of Windsor Chief, fertilized with Capt. Jack.

On old plantations Bubach No. 5 has done finely, but the new, or last year's setting, did not seem to fruit so well. Whether this was due to frosts or dry weather, I am not decided.

Warfield's No. 2, Jessie, and several other varieties were planted, but the experience this season will not warrant any expression of opinion, further than that the growth of the two varieties named, was very satisfactory.

Raspberries, where the plantations were not too old and weakened, in some cases were a fair crop. From present indications I think that the plantations of raspberries will necessarily have to be renewed quite frequently, on account of the effect of insect enemies and summer drouths. In small plots, heavy mulching is practicable and I think it would lengthen the life of the plants and increase the quantity and quality of the fruit.

The Gregg and Souhegan are mostly planted, but the Ohio is gaining favor with those who have tested it. Shaffer's Colossal, when it winters well, is a colossal in size, growth and bearing. Mine were seriously injured last winter, though from what cause I have not fully determined, as the wood seemed fairly well ripened in the fall. This is one of the most profitable raspberries, with me, for notwithstanding the injury to the bushes, we received fully as much fruit to the acre from as from any other variety.

The Snyder Blackberry is the only variety planted to any extent.

Young plantations had good crops, but old ones suffered from weakness in the canes and dry weather.

This year grapes were all very late in ripening, and the later varieties were not well matured and lacked in flavor.

For a short time in the summer there was a period of damp, muggy weather that was favorable to the developement of fungus growth. This started the rot on our grapes that were in condition to be affected by it. Concords suffered but little. Worden, Salem, Agawam, Lindley and Elvira suffered a good deal. What fruit was not injured within this short period ripened nicely. Brighton and Perkins ripened a good crop of fine fruit.

Plums and Cherries were all destroyed by spring frosts. The trees made a fine growth and we hope will give us some returns another year.

The larger part of the old cherry trees in Northern Illinois are dead, or nearly so. But those which have been planted within the last three years are growing finely, are healthy trees, and promise to give us plenty of fruit in the near future.

As far as health and vigor are concerned I think that we have reached a turning point in our horticultural experience. Only by eternal vigilance, continued work, both with head and hands, we of the northwest can expect to succeed in growing fruits. But I feel confident, that eventually some way or method will be found, to destroy or render harmless, the attacks of the enemies of our fruits. Much has already been done in this direction and with the increased facilities at command I look for many valuable experiments and tests, in the near future.

Mr. Augustine—I would like to ask Mr. Bryant whether he refers to the leaf roller or the skeletonizer. The roller rolls itself up in the leaf and will, I think be hard to reach with poison. I think the skeletonizer does the most damage in the orchard, but in the nursery the leaf roller is the most to be feared, as they not only destroy the leaves, but by injuring the central branch or leader, spoil the shape of the tree.

The President named the following committees:

On Plates—Col. G. B. Brackett, of Iowa.

Collections—Northern Illinois, H. Mortimer.
Central Illinois, Benj. Buckman.
Southern Illinois, J. G. Vaughan.

Miscellaneous—H. L. Doan.

Vegetables—Dr. Lyman Hall.

New Fruits—C. B. Rockwell.

On motion it was ordered that the time of meeting be fixed at 10 A. M., 2 P. M. and 7:30 P. M.

Adjourned.

TUESDAY EVENING.

This session was devoted entirely to the young people, and that they performed their part as well or better than the older ones we think all will admit.

THE CHOICE OF A VOCATION.

BY FRANK C. RIEHL.

Many and varied are the occupations of men; from the dude who promenades the city streets, the picture of indolence and self-conceit, to the statesman who, from the council chamber, rules the fate of nations. All the great family of humanity moving by many different roads, yet all traveling in the same direction, and each striving to outstrip the other in the race to the same goal — happiness. Taking together all the pursuits of men, I think we may divide them into two great classes, those derived from direct communication with nature, and those one step removed and dependent upon the first; those of the fields, and those of the city. As horticulturists we have to do only with the former.

There comes a time in every boy's life when he begins to think of the future. In that wonderful period of transformation when the toys of childhood and the careless indifference of youth are laid aside forever and the boy becomes a man. Aroused from his trance by the kindly injunctions of a solicitous parent, or it may be by the tender power of love, he suddenly awakes to the realization that he cannot always be dependent and must choose his path of life. He stands, as it were, on the threshold of home, and, gazing out into the great, wide world cries out: Oh! though great and mighty world what has thou in store for me? Thou owest me a living; which, of all thy many occupations, shall I follow the easiest to gain that living?

Thinking that there may be some farmer boys of Illinois asking that question to-day, I will attempt to answer it from a horticultural standpoint.

It is one of the fatalities of human nature to be dissatisfied with its present lot and to long for something better, and the trouble with this as with all other distempers of the mind is that it cannot be

reasoned with. Anything that will bring a change of circumstances appears to the dissatisfied spirit in the light of an beckoning angel.

Thus it is that many a farmer boy, who has grown up in the pure and healthful air of the country becomes dissatisfied with his old home and longs for a change. It may be that he has gone to the city and, attracted by its brilliance and splendor, he longs to become one of the festive crowd. Oh, my friend beware how you submit to this delusion; you have gone to the theater and were attracted by the glare of lights, the music and the brilliant scenery, but have you been behind the scenes? Do you know that all this outward splendor and gayety is only a hollow mockery? Ah! how many a poor fellow has left home and friends, attracted by this false light, and afterwards atoned for it by a life of misery and regret. You are attracted by the wealth and festive gayeties of the city, but have you ever thought that it is all dependent for life upon those who "with sun-trod faces and horn-gloved hands" till the soil and make the earth to bring forth fruits, and must turn for support to the children of toil, the lords of creation, the son of the soil?

I would not disparage the city. It is all right in its place and and as necessary to the support of the country as the country is to it. But let each remain in his own sphere. Statistics show that sixty per cent. of the country lads who have gone to the city have failed, and it affords us but small comfort to reflect that ninety-five per cent. of those who have come from the city to the country have done likewise. You have grown up surrounded by the beauties and simplicities of nature, and she has done for you all that a fond mother can do for her child. And if you will abide with her and do your duty as you should, she promises you a good living—more than many get in the city—and health of mind and body, which is worth more than all the riches of Vanderbilt and Gould. And if happiness and content are to be had on earth surely you will find them here.

When Adam first came to the Garden of Eden he came as a horticulturist to tend the garden of the Lord, and had he been content to stay and perform this duty he might have saved himself and us a vast amount of trouble; but he did not have principle enough to resist the voice of flattery, and it would seem that all following generations have inherited his weakness.

"Ah! yes," says Dr. Talmage in a recent sermon, "the fields were honored. The old shepherds with plaid and crook have gone, but instead we have all those who toil in the fields. All vine-dressers, all orchardists, all husbandmen. Not only on the Christmas night but all up and down the worlds history God has been honoring the fields. Nearly all the Messiahs of reform, and literature, and eloquence, and law, and benevolence have come from the fields. And

before this world is right the overflowing populations of our cities will have to take to the fields. Instead of ten merchants in rivalry as to who shall sell that one apple, we want at least eight of them to go out and raise apples. When the shepherd's crook was upon that famous night set against the wall of the Bethlehem kahn, it was a prophesy of the time when the thresher's flail, and farmer's plow, and woodman's axe, and ox's yoke, and sheaf-binder's rake shall surrender to the God who made the country, as man made the town."

While I do not think with Dr. Talmage that eight out of every ten of our merchants should come out and raise apples, yet we surely do not want half of our farmer boys to go to the city and compete with those merchants in selling what apples we grow. It is true that the horticulturist does not often acquire great riches, but he enjoys many priceless blessings which his wealthy brother of the city never knows.

"Honest and fearless, free and glad.
A very prince is he!
At peace with God, in love with truth,
With man in harmony."

It has been said that contentment is the sweetest and also the rarest drop in the cup of life, but I believe that if it is anywhere to be found it is in the quiet retreat of a horticultural home. Why then should we envy our brethren of the city the wealth and splendor which is theirs?

We care not for honor, we care not for wealth,
We ask but a living, contentment and health.

It is not only Washington who has declared horticulture the the noblest of all occupations, the experience of man since the beginning of time, has proven, and nature declares it, to be so. He who labors in the fields and tills the soil lives in direct communication with nature, and to him she gives her choicest gifts. Here alone is true originality, and all the countless ministers of God teach their endless lessons of peace, purity and love.

He who turns his back upon the country and betakes to the city, forsakes the holy temple of nature, to become a worshiper of the machinations of man. God made the country, man the town, which will you choose?

Are you ambitious? Your being a farmer will not prevent you from becoming famous if you have in you the right material. Every man is judged for just about what he is worth here on earth, and if you are a genius the world will find it out in time enough. It were needless to recount the names of those who have gone from the fields to fame and fortune. Suffice it to say that the brightest names

recorded on the pages of history are theirs, and there they will be well preserved, an everlasting compliment to the great mother, Nature, who nurtured them and made them what they were.

"The first glad tones that rang for me
Were woodland whispers, soft and mild;
The woods sang me a lullaby
As sings a mother to her child."

Before we conclude let us direct our attention for a few moments to the good old Society. Nobly and well has it done its work for thirty-three long years. By the untiring energy of its skillful leaders, and those of its sister societies, horticulture has been advanced from an art into a science, and only the future can tell what they may yet accomplish. And if only some of our legislators could be brought to realize the importance of the work which they are doing, something might be done that would gladden their hearts and lighten and facilitate their labors.

But boys, have you ever thought that they need recruits. Many of its leading members are no longer young, and one by one, they will lay down their armor and retire from the field.

The philosopher of old wanted but a fulcrum on which to rest his lever in order to be able to move the world; unfortunately however, for that aspiring genius, he failed to find one. The Illinois Horticultural Society to-day, in order to perpetuate itself and carry out the good work which it has begun, wants but a few young and willing hands to take up the burden where tired hands have laid it down.

And boys let us wake to the duty before us.
No longer restrained by the flickering lights
Of doubts and uncertainties hovering o'er us,
We'll shoulder our arms and advance to the fight.

THOROUGH WORK THE KEY TO SUCCESS.

BY LEON HAY, KANKAKEE.

Before attempting to write on this subject it may be well to try to find a definition that may cover the entire scope of the proposition.

Thorough work the key to success is, in other words, applying neither less nor more labor in the various known ways, than is necessary to obtain the best possible results when trying to attain any desired object.

This subject may be treated by drawing illustrations from all the occupations of man, yet for this occasion it is appropriate to draw

only from horticulture, as in this it is frequently seen that either less or more labor than is necessary is applied when ordinary results are expected.

It is but a short time since an experienced and successful fruit grower said that he failed oftener, when pressing farm work was on hand, to obtain a full crop of fruits, from lack of culture than any other cause. Not only of fruit growing is this too frequently the the case, but in the failure of other products, if the real cause were traced to its source.

A careful observation of the way some farmers, as well as many persons having a parcel of land manage a private garden, will seldom fail to show this. The preparations may be correct as to fertilizers, properly added to the soil, plowing, planting and care at the start, weeding in due time, but soon other duties call the would be gardener away just at the very time the crops most need his attention. He may be aware of this but at the same time he thinks this work can be put off till to-morrow, to-morrow comes and some other duties call him away again, and thus circumstances come and go until he finds procrastination to be the thief of time, and what would have taken but a few hours to do at the proper time, now, takes perhaps as many days, not to speak of the loss by the injury done in the meantime, to the crop, which can never be fully regained no matter how good the after-care may be, and instead of seeing his table regularly and abundantly supplied in their season with wholesome, palatable, and health giving vegetables and fruit, fresh from the garden, he has to be content with seeing it set with salt pork, potatoes, boiled cabbage, hash for a variety, and mush for a change, or buy the garden vegetables and fruit, which as a rule, means that he and his family will be without them half of the time.

Too often the garden is neglected to such a degree, that instead of being—as all kitchen and fruit gardens should be—a source of health, profit, and pleasure, the crops are smothered by weeds. The soil having been well plowed and fertilized the previous season, is conducive to their growth, to ripen an abundant supply of seed and in turn give more work for next season. Far better had such a deplorable piece of ground called garden, been seeded to grass than be a loss to the owner and an eye-sore to the public.

As gardeners are also either farmers or have some other calling, and other pressing work is on hand, pressing garden work may also be on hand, either one, or the other, or both must be partly neglected. It will be seen that often the real cause of failure, is undertaking more work than can be properly done. Since experienced horticulturists realize the fact that most failures come from lack of culture let us for a moment stop and listen to what the most successful horticulturists have to tell us about this matter.

"The commercial gardener, from the keen competition ever going

on in the vicinity of large cities, is, in his operations, taxed to his utmost ingenuity to get at the most expeditious and economical method to produce the finest crops." "At present prices (1886) no one would be safe to start the business of vegetable market gardening, in the manner it is carried on in the neighborhood of New York City, with a capital of less than $300 per acre, for anything less than ten acres; if on a larger scale, it might not require so much."

"The number of men employed throughout the year on a market garden of ten acres, within three miles of market, planted in close crops, average seven; this number is varied in proportion, somewhat, according to the quantity of glass in use." Some have generally employed more than that—fully a man to an acre—but that was in consequence of having in use more than the ordinary proportion of sashes. This may seem to many an unnecessary force for such a small area, but all experience proves that any attempt to work with less would be unprofitable.

The pomological display, of the Missouri State Horticultural Society, made in the St. Louis Exposition, September and October, 1888, said to contain about 5,000 plates of fine fruit, comprised the largest number of varieties of nice apples I ever saw together. Possibly every variety grown in the state of Missouri, were exhibited there. The gentlemen in charge of this display were very proud of it, and with every reason to be so, as it was beyond praise in itself, and said to be the finest ever made by any horticultural society in the United States. Not failing to attend, I learned that results like these were not caused by slip-shod work. Admitting that the climate of the state of Missouri, may possibly be a little more favorable to apple growing than that of our state, yet—judging by success only brings the test of good generalship—the greatest cause of the success must be attributed to the skill of the grower. In their discussions they readily answered almost any question asked them, about the names and habits of most varieties of apples, the various diseases and insects affecting the same, with all the known remedies. One of the marked improvements in apple growing, was that all present attributed the chief cause of their success, to spraying the trees with arsenical poisons, showing that the use of these remedies so much advocated by the most practical horticulturists and entomologists is fast coming into use.

While it may not seem practicable for the private gardener, to go to such expense as the commercial gardener, for taking into consideration the low price of land, fertilizers which can often be had for the hauling, and much of the labor done at odd times, thereby reducing the cost to a minimum, yet it must not be forgotten that as a rule too little care is given to private gardens, which cannot be properly cropped and cared for with less labor than can a market garden, no matter how low the expense of producing may be.

And while the ways of doing things by such men as quoted above are for operations on large scales, the private gardener and fruit grower will derive much benefit by modifying them to suit his smaller requirements.

So far it has been shown that a cause of failure in horticulture is giving the crops less care than they need. It is hardly necessary to say that another cause is doing more than is required, for one man who may fail from doing too much in accomplishing a result, thousands will fail from not doing enough. While there is perhaps no person who does only the amount of work that is absolutely necessary to obtain the best results, a few may occasionally go to extremes like the man who was told that by moderately pinching back melon and squash vines, while the fruit was yet small he would direct more sap to it and thus hasten its growth and increase its size. Trying this with success one year, he wondered why cutting off all other vines except what bore the fruit would not concentrate into it all the sap going to form these vines. Applying the experiment to a few vines, with what seemed to him at first was going to be a marvelous result; and in the meantime caused him to extend the treatment to his entire crop, found to his loss and disappointment, that while the first grew luxuriantly for a time, it soon wilted and rotted.

A very puzzling question to decide, and possibly the one where the mistake of doing too much is most often made, is in growing crops on which there is a boom. It causes many to grow this crop and by the time their product is ready for market, the supply often exceeds the demand, and as a result glut follows, bringing the prices to a point insufficient to justify the expenses, viz; the occasional booms in strawberries, potatoes, etc., or a crop may be in demand at one time, and not at another. As an example a market gardener often finds a good demand for sweet potatoes, cabbage, or other products one year, which induce him to plant again the same crop the next year, but then there may be a very limited, or no demand for them, thus involving a considerable loss to him. But as a rule it is very seldom that such will be the case when once a good article has been in demand.

Another mistake frequently made is that a crop is left to perish when it will realize less than the aggregate expenses. Should the crop be abandoned when one-half or three-fourths of the work has been done at a loss, yet it is unwise to leave it at this point, for the amount of labor still necessary to save what percentage of the crop can be saved, will often be amply repaid.

As an illustration: This fall, early in September, in the northern part of this State, a flock of sheep was turned into several acres of cabbages badly damaged by the cabbage-worm (*Pieris rapæ*); in fact, I believe, that not a sound head of cabbage could have been

found in the entire patch. A few miles further a small patch of cabbages were, at that time, in the same condition. Six weeks later I noticed in the latter patch a number of small to medium sized heads cleaned of the worms and fit for use. Being led by curiosity to count them, out of 258 I found 175, mostly in the same two rows, fit for use. On inquiring why the majority had headed mostly in the same two rows, I was told that about five cents worth of common black pepper, ground fine and dusted on the cabbages about the last of September, was the cause, and that about twenty-five cents worth applied a week sooner would have saved every head. A few days previous, about fifty miles west of this place, I noticed, in passing the field of a market gardener, that he was taking a load of a fair quality of cabbages to town, for which he readily found sale. Inquiring why his cabbages had headed as well as they did, he said that about the middle of September, in the entire patch of a few thousands, no cabbage had headed yet; but this being the time of early frosts, and when cabbage worms pupated for the last time, it gave the cabbages a chance to form what could be called a fair crop. Should this man have fed his entire crop in September it would have been a considerable loss to him, and other things being equal, I can see no reason why the several acres fed to the sheep would not have come to a fair crop, or even if, like in the case of the small patch where pepper was claimed to have been the cause of saving the few heads, some such cheap and harmless insecticide had been used. I see no reason why half or three-fourths of the crop would not have been better than the meagre profit realized in feeding to sheep,—although better thus than let them go to waste.

History tells us that in time past a man taking corn to the mill would place the sack on one side of the back of his mule, and stay it there by tying it to a stone equal in weight placed on the other side. Also, that "a law was made by the Irish Parliament, only a little over two hundred years ago, to prohibit the drawing of harrows by the 'tayles' of horses"; a practice which was thought to impair the breed of these animals. Strange as these facts may seem, they show that inventive talent has completely revolutionized the process of performing different kinds of work; "what required the labor of many under primitive methods is now better done by one person with the aid of improved appliances." One of the most experienced market gardeners tells us, concerning this matter, that "it has been a wonder to many of us who have been workers in the soil for a generation, how some of the simplest methods of culture have not been practised until we were nearly done with life's work."

There are few of us but have had such experience. Personally, I must say that I never pass through a year but I am confounded to find that some operation cannot only be done quicker, but done better, than we have been in the habit of doing it.

As a proof of the value of such improvements which have led to simplifying our operations, I will state the fact that, though my area of greenhouse surface is now more than double that which it was in 1870 and the land used in our florist's business is one-third more, the number of hands employed is less now than in 1870, and yet, at the same time, the quality of our stock is vastly better now than then.

While some improvements have been merely accidental, many have been the result of much time and cost. In addition to these, in the future the horticulturist, as well as all agriculturists in general, can look to quicker results, since many difficulties in these lines have now been overcome by expedient systems adopted to carry out the class of work by experiment stations. The bulletins issued by these should be in the hands of every progressive and wide-awake tiller of the soil.

It is not the mission of this article to lay down rules claiming to be the key of success, for in such matter what may be gold in the hands of the giver often becomes dust in the hands of the receiver. These have to be learned in the school of experience of yourself and by observing the ways of others, aided, in the meantime, by all the other sources of information available. Join horticultural societies. Go and see and study the ways of as many successful horticulturists as possible. Be not afraid to read as many books and periodicals as you can treating on the information you want; by your experience you will soon be able to detect whether or not the ring is of spurious metal. And last, but not least, if you are young and contemplate an agricultural or horticultural pursuit, if possible, take a course at some agricultural college. If you cannot take a full course, take a shorter one, of which there are several.

When having gained all experience possible, instead of, as is frequently done, looking upon agriculture as a very simple employment, hardly needing to be given thought to, you will find that although you take but one branch of it, you will then know the little that is possible to learn of that one branch in the course of a life time.

May this feeble effort in attempting to treat this subject lead an abler pen than mine to do it full justice, and if no new idea has been suggested, I hope that at least old ones have been so presented as to be conducive to good results.

CANNING AND PRESERVING FRUITS.

BY MISS NELLIE ROCKWELL, HAMILTON.

The Society has given me the subject of "Canning and Preserving Fruits," and although they might have chosen more wisely, and found someone who has had more experience, yet since the "die is

cast" I can only acquiesce cheerfully and try to tell you the little I really know about canning fruit for exhibition purposes, and for daily use during the winter months. We use only the Mason self-sealing jar, granulated sugar, and deem it a most important point to have the fruit in a fresh and perfect condition, for it is almost an impossibility to keep fruit successfully when it has been picked any length of time. Berries are especially perishable and require prompt attention.

We pick our berries and put them in the refrigerator until we are ready to can them, for they lose much of their fine flavor if exposed to the air. If it is the intention to use them for exhibition, the finest and largest fruit is selected, packed as tightly in the cans as possible without bruising. Then prepare a syrup composed of one teacupful of sugar and two teacupsful of hot water boiled until the sugar is dissolved and then poured over the fruit. Place the can in a kettle of luke-warm water, put on the lid loosely and let it boil until the fruit is done, which can easily be ascertained by tasting. (Mamma says that I always feel it my duty to taste it quite often.) If it is sufficiently cooked to be palatable, screw the top on and leave it for five minutes longer, then take it off the stove, examine the lid to be sure that it is perfectly tight and set away to cool.

Buy new rubbers every year, the old ones are unfit to use again.

Red and black raspberries, gooseberries, blackberries, cranberries, barberries, currants, apples, rhubarb, pineapple, peaches, plums, oranges, lemons, grapes and cherries may all be found quite satisfactory if canned by this method.

Pears, quinces and figs require a different treatment. They must be cooked slowly in syrup until the blade of a pen-knife can be readily passed through them, fill the cans and seal very quickly. In canning for daily use, all the above mentioned fruits can be cooked in the syrup (with the exception of the red raspberries and peaches), filled into the cans and sealed up directly, thus greatly simplifying the process, and the fruit will taste just as good, but will not present so perfect an appearance. We do not use the old-fashioned recipe for preserves, the "pound for pound of our grandmother's time;" but, instead, take less sugar, do not cook them so long, and seal in jars precisely as we do the canned fruit.

In conclusion let me urge everyone who can, to save fruit for winter use, the home-made article is so much superior to any that can be purchased in the market, and although the labor of canning fruit is considerable, yet I think one is amply repaid for that by the pleasure it gives to others and the satisfaction one feels in having produced something creditable enough to prove a welcome addition to the table when "friends drop in to tea."

INFLUENCE OF FLOWERS ON THE HOME.

BY MISS BESSIE M. NASH, WARSAW.

Whatever fixes the attention or engages the affections of people either tends to elevate or debase them, and as it is impossible that the beautiful flowers, with which our Heavenly Father has strewn his footstool, should lead downward, it must be that their influence is for good.

That the rural homes of America are vastly superior to those of any other country will not for a moment be questioned. The principal reason is that women who, in some other countries, are not considered the equal of man, and do not receive the respect and attention they deserve, in this intelligent land occupy the same position and are one of the principal factors in the home-making. Women intuitively love the beautiful, whether it be beautiful apparel, or works of art, or beautiful homes, and it is generally *her* inspiration that brings into being the stately trees, the handsome lawn and beautiful flower garden, and it is her taste and skill that fill so many homes with floral beauty.

"Oh! the flowers, the beautiful flowers!"

With them we decorate the house of God as well as our own homes; with them we adorn the bride and comfort the mourner, and when our loved ones have been laid away to await the resurrection morn, how lovingly we strew flowers upon their graves.

A well-kept flower-bed affords its owner many a pleasure in her own home, and then one can enjoy the luxury of giving. All are not able to make costly presents, but the flowers are something which any one can freely give or accept.

As our people cultivate a taste for beautiful surroundings, handsome lawns ornamented with trees, shrubs and flowers, the spirit of improvement permeates the whole home system; the house is repainted, the fences are kept in better repair and the farm machinery put away in its proper place, and things in general are more tidy. This in turn affects the whole community, and if one family in a town or neighborhood surround themselves with a neat lawn, pretty flowers, shrubs and trees, other will follow their example and you will soon find that the whole town, village or country, has wonderfully improved until there is not just one fine place, but a whole street or a whole neighborhood of neat and beautiful homes. The wealthy and refined will be attracted thither, and thus by their means and society promote the business and welfare of the community.

If all our country homes were kept as they should, and as they might be, there would be less complaint heard of the young men and young ladies leaving the farm and going to the city to be cooped up there from morning till night in dark stores, shops or offices, where

they soon lose their bright, healthy look, and ere long droop and die. If they had stayed on the farm and had been allowed some convenient place for a flower garden and a little help now and then to take care of it; if books, papers and music had been provided in the house, and some chance given now and then for a trip to see something of the world, in fact if everything had not been work and striving for the almighty dollar, many would have stayed in their country homes and grown up to be useful men and women instead of going to the crowded city, where so many go down in moral and financial ruin.

I quote the following extract from an address by one of Illinois prominent horticulturists, bearing on this subject:

"If you travel over New England, or the Middle States, or the broad plains of the West to-day, and count the thousands of mansions, villas and cottages, in suburbs, in towns and on farms, which are embowered in shade and sheltered from winds, with bright lawns and blooming flower beds around them; if you will consider the sheltering roadside maples, the shaded school house grounds, the hundreds of handsome parks; and how everywhere the love of beauty in the soul of man and woman is in full blossom in tree and plant, in lawn architecture, you will be certain that the esthetic side of our horticultural education has been advancing at a wonderful rate."

Think you not that the young people who are brought up among such surroundings will grow into a better type of manhood and womanhood than where these conditions do not exist? If so what a grand work is laid at the door of this society, not only to beautify and adorn your homes but to lead the children and young people of Illinois up to a higher and nobler life.

"Bring flowers, fresh flowers for the bride to wear!
They were born to blush in her shining hair.
She is leaving the home of her childhood's mirth,
She hath bid farewell to her father's hearth.
Her place is now by another's side—
Bring flowers for the locks of the fair young bride!

"Bring flowers, pale flowers, o'er the bier to shed,
A crown for the brow of the early dead!
For this through its leaves hath the white rose burst,
For this in the woods was the violet nursed!
Though they smile in vain for what once was ours,
They are love's last gift, — bring ye flowers, pale flowers!

"Bring flowers to the shrine where we kneel in prayer,
They are nature's offering, their place is there!
They speak of hope to the fainting heart,
With a voice of promise they come and part,
They sleep in dust through the wintery hours,
They break forth in glory—bring flowers, bright flowers!"

FARMER'S BOYS AND GIRLS.

BY HARRY G. BRYANT, PRINCETON.

Nature has said that if man wishes to enjoy life to its fullest extent, he must possess a healthy mind and body. Nowhere can we attain this so well as on the farm.

How healthy farm life is! How well we can enjoy such life and its surroundings — breathing the pure air of heaven, uncontaminated by the smoke and dirt of the cities, with plenty of exercise to develop the physical powers to their fullest degree,— and after our day's work is done, we have the time and opportunity to improve our minds by reading; not trashy, cheap literature — there is far too much of this done already,— to its door can be laid much of the dissatisfaction for farm work and life. It poisons the mind and conveys to the person starting out in life a wrong impression, which takes the best years of his or her life to find out it is false.

But let your reading be standard works, such as will elevate and improve the mind. Here we should not leave out the Agricultural and Horticultural papers. Each family should take one or more of the best of these, as they can afford, and not only take, but read them; for much can be learned in this way that will aid us greatly in improving our ways and means of farming.

With improved tools and machinery, we are enabled to do our work much more easily and quickly than in the past, and I hope that in the near future as much improvement may be seen in the farmer's home surroundings and life as is now seen in the tools with which he does his work.

There is no need of so many farmers living as they now do, with uncomfortable homes, the yard overgrown with weeds, and used by the chickens, calves and hogs as common property. We can find hundreds of examples of this all over the country. This state of affairs could be avoided by a little care and attention at the proper time. Should we wonder that the boys and girls who live on such a place as this, dislike farm life and long to go to the city, or, in fact anywhere, where neatness and order prevail. No one has any more right to enjoy the luxuries of life than the farmer, or has more opportunities so to do. He can raise his own fruit and vegetables without much trouble, by caring for them at the right time.

It seems to me that in every family some one should see that there are enough trees, plants and seeds planted to yield a sufficient supply of fruits and vegetables for the family use during the year. These will not need much ground and can be planted in rows and cultivated with the same tools used for corn.

The front yard should also receive attention in order to give the place a neat appearance. The grass can be easily cut with a mower and trimmed with a scythe.

Near the house, we should plant sparingly of large trees. If too closely planted they will give too much shade and make the house damp.

A few evergreens will give variety and beauty, and should not be left out. Two or three flower beds will give more pleasure to the tired mother and daughters, than almost anything else. There is scarcely anything that is more easily grown than the hardy annuals, for they do not require a great deal of attention and give the best results. I will not attempt to say, how the inside of a farm house should be arranged. That, I will leave for some one better posted than myself.

By all means let us have it arranged as conveniently as possible, so as to save the mother and daughters as many unnecessary steps as we can.

It seems to me, that if the boys have an especial liking for any one branch of farming, that it is the duty of the parents to give him all the opportunities they can to improve himself in that line; by so doing, the boys may be encouraged to stay on the farm and to have a liking for it.

We can not all reasonably expect to be very successful farmers, but I am sure we can get a comfortable living from our farms much more easily and satisfactorily, than we could if we invested the same amount of money in business in some of the cities.

In selecting your life work you should be very careful what you choose, try to make up your mind to one thing, then settle down and work away. If business is dull, do not get discouraged and try something else; but keep at your chosen pursuit, and sometime, probably, fortune will favor you.

The old adage is undoubtedly true, that "a rolling stone gathers no moss." So let all see that they do not become "rolling stones" in this world, trying first one thing, then another, and succeeding with nothing. Such persons are a dead letter in the world, leaving it no better than when they came into it. Let us make up our minds, that we will succeed with whatever we attempt to do that is right; so that when we are passing away, we can feel that the world is better for our having lived and worked in it.

THE PROPAGATION OF TREES AND PLANTS.

BY C. E. DENNIS, HAMILTON.

Your honorable committee, in assigning duties, gave me the subject of propagation of trees and plants, without assigning any special feature thereof. They might have shortened it by saying horticulture, for it really embraces the whole subject. And I assure you I feel greatly at a loss in being called upon to take up a course of thought that has been a puzzle to wise heads for more years than I

am capable of recounting. Let us take the thought of propagation for a few minutes consideration. Webster says propagating is continuing or multiplying by generation or successive production, to cause to spread or extend, to impel or continue. Two words in this may give us some branches of thought. They are continuing and successive productions. We might, for our subject's sake, say successful production. Then we would have propagation meaning continuing in successful production. And two other words explain the object of this paper and this Society. Spread and extend. And is it not the true intent of all practical horticulturists to get a correct understanding of desirous results that they may be spread throughout the land for the good of the toiling millions and to extend to the coming generations. And I, for one, have learned much from the horticultural societies, of which there are many and doing much good. Yet they come far short of performing their full mission, as I believe they are the medium through which we as individuals may attain to near perfection in the matter of plant propagation. And let me say right here that propagation does not consist merely in the originating of any special object but just as much, and many times a great deal more, in the perpetuation of material when results are concerned. For instance, propagation is commenced under many different conditions and in many different forms, the originating and development of trees and plants is only attained after much essential and carefully guarded attention. From the time the initial step is taken, constant care is required so long as the tree or plant shall live, and each kind differently as concerns their nature and present surroundings. Plant life requires food and protection just as much, and repays just as well for the care bestowed, as animal life, and I think horticulturists are beginning to arouse themselves to the plant's necessity and appeal for nature's life-giving properties, and to look in wonder at the constant abuse and robbery everywhere arrayed against them. Witness! We will again call in the Horticultural Society as a medium of communication. Take the programme of this meeting and you will find it consists of appeals for assistance to plant life, and calls for remedies for the many grievances.

And it was, I believe, wisely said this morning that the history of this Society is one of continual lamentation. And experience has taught me that many have been lead astray by exhorbitant ideas and enormous estimates of production, founded many times on scientific theories instead of scientific facts. Now, so far as my mite shall go in contributing to the records of this society, it will only be a personal experience. Again, if we will take this Society reports, we will see what some of this wailing is about. Let us see? We find them sending up a cry for the relief of rust, insects blight, rot, winter killing, and summer stowing; the irrepressible agent of snide varieties, and above all, the unprincipled nurseryman, who will

persist in getting his seed from cider-mills, to the imaginary detriment of all planters.

Let me say right here that I claim the honor of being a *nurseryman*, and presume one of the much despised ones, and shall not say as one said this morning, that I have no ax to grind, for I have one, and the Society has given me a chance to grind it. Who is there, among all plant growers present, who cares what the plant is, so the desired results are attained. Let us again take animal life and results for an example. It is within the experience of every stock-raiser in the country that when stock is neglected and starved that they are thrice subject to all the ills to which animal life is heir, and produce poorest results. Also, on the other hand, when the necessities of the animal are fully supplied, all the necessaries pertaining to their welfare and the desired results placed at their disposal, that they are then, and only then, in a condition to return good results. Consequently, those interested, have taken scientific facts as their guide, and if they want milk, they feed for it; if beef, feed for it; if butter, feed for it; it matters little what kind the stock may be, if principles are adhered to, results will be good. They have carried science so far as to almost veto the cow. Now, I think that the answer to this vexed question of plant life and profit, lies in scientific research, instead of theory. And I think the Horticultural Society is on the right road in establishing *Ad-interim* Committees and Experimental Stations. Agricultural colleges are very good, yet they are liable to be biased in their desires and manner of treatment, also local difficulties.

Now, I want to grind my ax! We, as nurseryman, know something, and I, for one, have gotten my knowledge from dearly paid experience. I will take the apple tree for example, as it is one on which argument seems to center, and I am better posted. We take the much abused cider-mill seed as our germ; we prepare our ground and grow our stock one year for a desired result, and experience has taught that culture very largely governs results, yet I will tell you something more, farther on about this. In the fall we take up our roots and graft our stock for exactly opposite results, afterward planting them out to grow for the much-abused consumer. When we dig after two or three years growth, we find there are some characteristics in the soil which plants seek for. For instance, we find, perhaps, on one side of the tree only large brace roots, while on the other there may be one single root, or the whole side of the tree literally crowded full of small fiberous or feeding roots reaching into some peculiar soil. An old stump or some particularly fertile spot taking to itself necessary life-giving properties. Let science say what it is!

I wish to say one more thing that we know. That is, people say: "Oh, you propagate from scions cut from the nursery row from

trees that never bore fruit, and are constantly bringing the trees to a state of barrenness." What we know is, that in our locality if we keep trees over three years in the nursery row and give them proper care, we are very liable to have some fruit, if the trees are barren. There is still another fact of which we are well informed, although not very pleasantly, sometimes. That is, that we may, for instance, take the Willow Twig, and from one block of trees grown in exactly the same soil and under the same condition, sell three or four bills of trees, one man will come and say, "I want more Willows; they make me more money than all my other apples." That man is prepared for and should grow Willow. Another says, "Bitter rot spoil mine. Ben Davis make my dollars." He should grow them. Another says, "They blight, Minkler for me." He should grow them. Now, it seems to me that it makes little difference what the germ originating the plant is, if we have the location where the plant thrives, leading us to believe that there is where the chemical essentials are. And on this ground our advice is that, for dollars, men should confine themselves to varieties that produce good results with them, and let others grow their successful kinds, and not try to grow all the different ones mentioned in the long catalogue of names. I think this the desired end of experimental stations; give them a sample of soil and surroundings, and let them analyze and tell you the conditions both beneficial and detrimental and govern yourself accordingly, if in your power, remedy the difficulties. See what the exact condition is of some man's land who makes a success of your favorite varieties, and if you can make your conditions the same, well and good; if not, try something else. Do not try to force nature to do just your way, because she is obstinate. Let us look at our surroundings and see if we have done all we might have done to save our already dead apple trees, and I believe that what is true of trees is just as true of other plants.

Probably every reader of this volume is familiar with the Legend of the Piasa Bird. A huge painting, or traces, at least, of which could be seen on the cliffs above the city of Alton but little more than half a century ago. In 1669, Father Marquette, the first white man who ever navigated the Father of Waters, saw the painting and heard the Indian legend, which our gifted young friend has told us so well in verse ; and though not horticultural matter, we are sure that all who read the book will be glad to see it in print.

THE LEGEND OF THE PIASA.

BY FRANK C. RIEHL.

Sitting lonely by the hearthstone in the fire's ruddy glow,
Musing on old scenes and incidents that happened long ago ;
While the winds outside are sighing through the tree tops cold and raw,
I recall the Indian legend of the dreaded "PIASA."

Long before a white man gazed upon the Mississippi's flood,—
When the Indian was sole monarch of these Western solitudes,—
This great monster bird — or devil,— so the ancient legends say,
Cast its shadow o'er the valley on a sultry autumn day.

Just above where the Missouri and the Mississippi blend,
Where the river turns to southward, and the bluff comes to an end ;
There the beast took up its lodgings in a cave beneath the cliff,—
There the terror-stricken warrior oft beheld it from his skiff.

'T was a fearful sight to look on, with its awful, horned head,
And its mighty, vice-like talons, sharp as spears, and bloody red,
With its giant wings extended, and its alligator tail,
And its body all protected by a rugged coat of mail.

All day, perched upon the hill-top, it would gaze upon the wave,
But at nightfall it would settle down to roost within the cave ;
And as regular as nature, just at break and close of day,
It would spread its sail-like pinions, and go forth in search of prey.

Woe to any living creature that its eagle eye might scan !
Oft it captured deer or bison, but its favorite food was man !
It would seize its hapless victiim, and retire into the cave,
And, once grasped within those talons, all was powerless to save.

Many a squaw beheld her warrior borne toward that fatal height.
Many a huntsman, home returning, found his wigwam bare at night !
Sore dismayed, the tribe retreated far out on the western plain,
But the bird still followed after, and the flight was all in vain.

Till the cavern floor was covered with a pile of human bones,
And the forest echoed loudly with a despairing nation's groans,—
When at last their aged chieftain, who had prayed and fasted much,
That his people might be rescued from the awful monster's clutch,

In his dreams beheld a vision, and was counseled by a voice—
And the counsel that it gave him made his stout old heart rejoice.
Though the Maniteau informed him that to save his people's life,
He, himself, must be the victim, and might perish in the strife !

"He would soon be old and useless : gladly would he die to gain
Life and freedom for his people, and to see that monster slain."
Then he chose his twelve best warriors, and they journeyed in the night,
Armed with bows and poisoned arrows, till they reached the fatal height.

On a rock above the cavern the old warrior took his seat,
Bidding his reluctant comrades bind him to it, hands and feet ;
And then, pointing to the covert nigh, he bade them go and hide,
And whene'er the bird swooped down on him to shoot it in the side.

Thus he waited for the sunrise, and, meanwhile, with rapture viewed
Nature's beauties spread about him in that awful solitude ;
Here his native hills and valleys, sloping backward from the shore,
To the plain where stood his wigwam in the happy days of yore.

There the plains of the Missouri in their waves of living green,
And the Mississippi rolling in majestic course between ;
Then he wandered back in fancy, and with honest pride he thought
Of the trophies he had taken and the battles he had fought.

Many moons had come and vanished since, on yonder shining strand,
He received the regal hatchet from his dying father's hand ;
With injunctions to be watchful,— well to guard his people's life,
And protect their wives and children from the stranger's scalping knife.

And no foe had e'er been able to molest him in his sway,
Till the "Piasa's" dread ravages had driven him away ;
Then he thought of wife and children, and the hero's soul was moved,
As he asked a final blessing for the beings that he loved !

For the sun had now arisen in a flood of golden light,
Gilding all the plain below him with a thousand colors bright,—
Now the time had come for action, and, with calm, untroubled eye,
He embraced the fate before him, for his time had come to die !

A moment, then the chieftain bowed his head in silent prayer,
The next, the death hymn from his lips rose on the morning air ;
And the twelve secreted archers, as they listened in dismay,
Saw the awful bird rise upward and swoop down upon its prey !

Then the chieftain heard the twanging of a dozen loosened strings,
And a dozen poisoned arrows lodged beneath the monster's wings ;
With a cry of rage and terror, such as never since was heard,
Backward o'er the lofty prec'pice, dying, fell the mighty bird.

And though badly bruised and mangled by the monster's dying throes,
The old chief survived, and lived to conquer many daring foes ;
All the warriors then assembled at a great thanksgiving feast,
Where they praised the Blessed Spirit that their king had been released.

And a likeness of the demon on the prec'pice was engraved,
That they ever might remember from what fate they had been saved ;
Ever after when the warrior drifted by it in his skiff,
He discharged his poisoned arrows at the picture on the cliff.

* * * * * * * * * * * * *

Though the painting now has vanished with the silent lapse of time,
And the rocks whereon 't was drawn have been converted into lime ;
Though another race is monarch o'er the Mississippi's tide,
And a city's domes are standing where the Indian fought and died,
Yet do parents oft rehearse, while children list with bated breath,
How the noble chieftain lured the dreaded "Piasa" to death.

Col. Brackett — I congratulate you on the success that has crowned your efforts to interest the young people in your work. We feel that we need young blood in our Society, but have so far failed to draw in the young men and women. I have been greatly pleased with the exercises this evening, and think this new departure will result in good. You have set us an example that we shall certainly follow.

Adjourned.

WEDNESDAY MORNING.

By invitation of the President, Rev. A. T. Wolf opened the session with prayer.

The election of officers was the first business in order. It occupied but a short time, and resulted as follows:

President — H. M. Dunlap, Savoy.
Vice-President — D. H. Gray, Elmwood.
Secretary — A. C. Hammond, Warsaw.
Treasurer — H. K. Vickroy, Normal.

President — The location of the next Annual Meeting is now in order.

Mr. Augustine invited the Society to hold its next meeting in Bloomington. Mr. Webster presented an invitation from Cairo, and Mr. Dennis, from Hamilton.

After a full discussion of the question a ballot was taken, which resulted in favor of Hamilton.

Mr. McPike — I think it a mistake to hold our meetings in December. In October or November we would have better meetings, better exhibitions, and make better reports. Our meetings and reports are greatly in advance of many other states, but I think both would be made better by holding the Annual Meeting at an earlier date.

Mr. Minkler — I move this question be referred to the Executive Board.

Mr. McPike — If the motion prevails, I hope the Board will report to this meeting.

Mr. Riehl — I think if the Board is to report to this meeting we had better settle it now, as the ground will all be gone over again and much time consumed.

The motion to refer to the Executive Board was adopted.

REPORT OF COMMITTEE ON GRAPES.

BY J. B. MILLER, ANNA.

To the Members of the State Horticultural Society:

As circumstances will not permit me to attend your annual meeting, I deem it neccessary that I should send in some kind of a report, as to what I am doing in the way of fruit growing down in lower Egypt.

This has been a season of full crops of all kinds of fruits here — peaches, pears, apples, plums, cherries, and all tree fruits. But all my finest peaches were ruined by the excessive rains in August, which caused them to crack open and rot by the bushel, and the ravages of the curculio were fearful. It was a hard matter to find a peach or plum that was free from their wounds. Pears were more than full crop, my Bartletts were as full as they could hang of nearly perfect fruit. The price ruled low, fifty cents per one-third bushel box, yet there is money in them even at that price, if we could keep the trees from the blight.

Grapes were only about a half crop — from the black rot. All

kinds rotted badly owing to the heavy rains in June. Perkins the least, Moores, Pocklington, Jefferson, Duchesse, Prentiss, Martha, Vergennes and Delaware nearly all rotted. I have a new seedling from the Perkins that has never shown a single rotted berry as yet, fruited now for three seasons in succession, a golden grape same as the Pocklington, sweeter than the Martha and as large as the Perkins, being healthy and vigorous. Have others from the same source but not so promising as this. I believe this golden grape to be the coming grape for localities where grapes rot bad. My new apples I have decided are no improvement over the old Winesaps, if as good. But am saving seed to try again.

I am experimenting with all kinds of fruits from the seed. But shall devote a good deal of my time hereafter to seedling pears. I think there is a large field open to improvement here. If I can raise from the seed of the Bartlett pear one that is as good, and free from blight, then I will have it, for this is what we need and must have. I have several seedlings coming on now that will fruit in a few years. But I know that this is a herculean task, but think I am equal to it.

REPORT OF COMMITTEE ON GRAPES.

BY GEO. B. WORTHEN, WARSAW.

Gentlemen of the Illinois State Horticultural Society:

I had thought of having the pleasure of meeting with you this winter, but find, at the last moment, it will not be convenient.

I have but little to report on grapes, and that little not very encouraging. In this locality, the crop in all the large vineyards has been a failure on account of the rot. There was never a finer prospect for a crop than last spring, but by the first of July nearly everything that was not rot proof was gone.

The largest vineyard in the county is owned by Broult Bros., of Warsaw, who have thirty acres of Concords. Their crop was one-half barrel of wine. I have ten acres of Concords and did not pick any of them. There are a few Catawba vines in the county, but they rotted as badly as the Concords. As a general thing the grapes in the city lots where there were but a few vines, and those not cultivated, did not rot.

Of the older, the Virginia Seedling and Hermann are the most reliable, but they must be protected in winter. I protect by pruning in the fall and laying the canes on the ground, and putting enough earth on them to hold them down.

Of the newer varieties I have fruited, the Etta is the most promising. It has not the fault of its parent, the Elvira, of bursting when it ripens. I set out three vines in 1886 and this season picked sixty-six pounds from them. The largest bunches weighing seven ounces, and every berry perfect.

All of Rogers' Hybrids I have tried have been a failure with me, well as Lady, Lady Washington, Missouri Riesling, Vergennes, El Dorado, Clevenor, Black Pearl, Empire State, Bacchus, Peter Wylie, Oriental, Waverly and Jefferson. I have one Worden planted in the old Concord vineyard that rotted as badly as the Concords, while one in my experimental vineyard — probably twenty rods away from the Concords — had perfect fruit; the former was seven years old, the latter three years.

I have tried bagging on a small scale, and it is a success if done early enough, but it must be done as soon after blossoming as possible, and even then you will sometimes find a bunch entirely rotted.

The objection to bagging is the expense, and it retards ripening a week or ten days and the skins are so thin I do not think they could be shipped. There is no profit in shipping except for the earliest market and we are almost too far north to get much from that source. The prices in the city markets at the present time for native grapes are from two to three cents per pound.

Since the railroads have made such cheap rates on California wines it has nearly ruined our home market. I don't think there are more than two-thirds as many vines in our county as there were fifteen years ago, and there are being but few planted.

H. G. McPike — Is there any substitute for the Concord grape, for money value, or dessert use ? Can it be excelled ? No ! I have tried Worden, Delaware, Virginia Seedling, Cunningham, Niagara, Pocklington, Lady Washington, and a score of others for a quarter of a century. I do not want to disparage anybody, or anybody's grape, and would like to beat the Concord, but while I have thought it possible, I have never as yet, been able to do so. In size, color, productiveness and quality, it is nearer right than any one grape I know of.

Mr. Mann — I move that a committee of three, from each horticultural district, be appointed to recommend lists of apples suitable for planting in their respective districts.

Motion adopted, and the following committees appointed:

Northern Illinois — S. G. Minkler, H. Mortimer, L. R. Bryant.
Central Illinois — C. N. Dennis, Frank Cadwell, C. B. Rockwell,
Southern Illinois — W. R. Crain, J. Webster, Jacob Auer.

Adjourned.

WEDNESDAY AFTERNOON.

The first thing on the program being music, Miss Pearl Hewitt responded to the call and favored the audience with a charming solo, after which the President called the

REPORT OF THE COMMITTEE ON STRAWBERRIES.

BY D. H. GRAY, ELMWOOD.

Mr. President, Ladies and Gentlemen:

Perhaps we are not behind any State in the Union in the amount and quality of strawberries grown. The season is a long one, lasting from twelve to fourteen weeks. It begins at Cairo and closes up in Lake County. Sometimes the harvest moves gradually from Southern Illinois to Central and then to Northern. This is the rule, but by some climatic change, 1885 and 1886 crowded our harvest into about half the usual time, the Central and the Southern coming almost together. This year gave us the usual order of ripening and the usual length of harvest time for the state. To this fact in part we are indebted for the increased price of the fruit over the past two years.

Throughout the northwestern part of Central Illinois the crop was lighter than usual by at least twenty-five per cent. This was occasioned by the drouth of last year during July, August and the first half of September. The drouth prevented the early growth of runners. The young plants were too late in setting to bear much fruit this season. On some plantations where plowing was repeated every week throughout the summer, the effect of the drouth was not so marked on the young plants.

I saw two plots of Bubach's No. 5, started early in the spring, both were on very rich deep mellow soil, the owner of one plot commenced cultivating his plants three days after planting them and followed it up once a week at least, until the rains of September fell. The second after two weeks commenced cultivating his plants and repeated it between showers during the season. The first, set runners throughout the month of August, making a close row of plants early in the season. The second, established his rows in September or four weeks later than the first. The first yielded at the rate of four thousand quarts per acre. The second did not reach the yield of one thousand per acre. Yet to an inexperienced grower the plots looked equally well a few weeks before flowering time. There may have been other causes for the difference in yield, but they were not apparent.

VARIETIES THAT DID WELL THE PAST SEASON IN THE NORTHWESTERN PART OF CENTRAL ILLINOIS.

It is very plain to you all why I shut this report up to so small a territory. Last year our committee in his abler paper placed Miner first and said of the Crescent, he had no farther use for it. Mr. Jackson gave results from his own farm, and immediate vicinity. Unless your committee can visit different parts of the State during the fruiting season, is it not better that he should speak only of what he can verify.

The Crescent, which is of no comparative value on Mr. Jackson's farm, is entitled to first place in the locality given. In number of quarts per acre it is about twenty per cent. ahead of any variety grown this year. A black, deep, rich soil, that, under good tillage produces from sixty to one hundred bushels of corn per acre, seems to be the place for the Crescent plant.

Bubach No. 5 took the second place, not in productiveness, but in money value. This berry, the very perfection of color and form, captures the buyer. The yield was third, not second, but second in money value. I am inclined to think that this berry will take first place next season in money value, and second place in quantity.

Mt. Vernon took third place in money value and second in quantity.

Sharpless did better than usual this year, getting fourth place by right. It is one of our very best fertilizers.

Manchester did better than usual. Champion did well.

Downing, as a fertilizer, is valuable, but in fruitfulness and value takes the lowest place this year ever given it. Downing always moves a little nearer the front following a moist season. I have but to mention Jessie and Jersey Queen to complete a short valuable list. It is barely possible that we will have no use for Jersey Queen. No. 5 may be Queen in the northern half of Central and all of Northern Illinois, and it is barely possible that Jessie will prove her royal prince; but the fruiting of all Jessie plants this year placed the Jessie in a far lower grade. The plant is slow in taking hold of the soil, sets its runners rather late for fruiting, and in a backward season may fail altogether on first crop; but the second year of fruiting may be the surer one for this variety. The berry is large, but not so showy as Bubach's No. 5.

New beds of this variety look well this fall and promise a far larger yield than at this same time last year. While the Jessie did not make as many plants as last year they are stronger and older, having set earlier in the season. I am not ready to condemn the Jessie; it has had a big advertisement to struggle under the newspaper. Mulching was put on a little too thick for the native modesty of a western

plant, but I think it will come up and take a place somewhere about where the Sharpless sometimes stands when all things are favorable for that plant.

Prospect for the crop of 1889 is good, but the average is a little short.

Insects.—The Thrip was abundant this season. He was found climbing the pistils at every strawberry blossom and of every other flower that bloomed during his season. A strong, healthy flower on a strong plant suffers less from this insect than the flowers on a feeble plant.

The White Grub was at work as usual, but when showers are plentiful, his depredations are not so great. Other insects, enemies of the strawberry, are not in sufficient number to make a show of injury.

I have made mention of but few varieties, and only showed which are profitably grown in the locality named. A great many older varieties need not be mentioned, as their place is being occupied by later ones. A number of new varieties that I have not grown, nor have not seen in fruiting, but have heard good reports from, demand mention,— the Warfield and others of some notoriety,— I prefer that those who have tested them speak for them.

I have made a selection of plants for field crop, consisting of Crescent with Mt. Vernon, Bubach No. 5 with Jessie and Sharpless.

Mr. Riehl — I have had considerable experience with Captain Jack and think it one of the best. Crescent is good for home use and is the farmer's berry, but unfit for long shipment. Bubach does well on my grounds and I shall plant it largely.

Mr. Hay — Is the Sharpless a good fertilizer for the Crescent ?

Mr. Gray — Yes ; one of the best.

Mr. Jackson — I do not think it wise to recommend any variety for general cultivation, as the strawberry is so greatly influenced by circumstances. This season some were badly injured by drouth, while others passed through safely. If we mulch our strawberries and give them proper care, drouth will not be so injurious.

Mr. Warfield — Some seasons Miner and Sharpless do no good. I would therefore advise caution in planting. Wilson is one of the best fertilizers for Crescent.

Mr. Vanderburg — We find that in every locality berry-growers have to learn by actual experiment what is suited to their peculiar soil. Miner and Sharpless did well with me, one year, and then

failed. Manchester went the same way. Crescent will not do to ship, but is the best for local market and home use.

Mr. Mortimer — In my locality Itasca and Haverland to well; we consider them best in quality. The objection to Downing is that it burns out in our hot, dry seasons.

Mr. Gray — Plenty of moisture is necessary to successful strawberry growing. Some seasons one town or county will have an average rainfall, while an adjoining town may be parched with drouth. I vainly tried to grow Sharpless for three years, but finally planted it on a northern slope where it did well. Mt. Vernon is the best fertilizer I am acquainted with. It is a wonderful grower, with long fruit stems, and every flower is full of pollen. The only objection is, it blooms a little late.

Mr. Davis — In April, 1887, I planted a field of strawberries and cultivated until the drouth set in, when many plants died. About the first of August I covered them with straw; in three weeks we had a heavy rain, which thoroughly wet the ground, after which I raked the straw off the plants, leaving it between the rows; they grew finely, and I had a magnificent crop of berries, fully one hundred and seventy-five bushels to the acre.

Mr. Warfield — In 1887 I planted four acres of my seedlings and cultivated until the middle of July; this season I gathered two hundred and fifty twenty-four-quart crates per acre.

REPORT OF COMMITTEE ON STONE FRUITS.

BY IRA COE, QUINCY.

As one of the Committee on Stone Fruits, my report will be, of necessity, very short. The peach in our section, *i. e.*, the Central part of Illinois, has been a complete failure so long that it required no little effort to find out when we *did* have our last crop. I think in the summer of 1882 we had our last crop; since this time the old trees have nearly all died from the extreme cold winters. I know of orchards being planted since which have grown up and died without bearing a crop.

There are a few fruit growers near Quincy who still have an idea that somehow the character of the seasons will be more favorable in the future for the peach; that there may be a series of open winters such as we used to have, and hence they keep right on setting out —

not in large numbers,— but in a small way, hoping at some future time to reap a large harvest from a small area.

The Quincy market is now supplied with this fruit in its fresh state, the same as other northern cities, from Arkansas, Southern Illinois and Michigan.

So far as I have observed, the peach trees of this section have made a fine growth this season.

The plum, as compared with the peach, has been more profitable. Having some experience with the plum, especially the Wild Goose and what is called the Chickasaw, I can say that the trees and fruit buds are perfectly hardy, having stood twenty-five and thirty degrees below zero without injury, coming out bright, and blooming nicely in the spring.

I think in the year 1882 we had a very fine crop of the Wild Goose plums. Then the next crop was in 1886. This year, 1888, we have had a very fine crop of all kinds — especially of the late kinds, — such as Chickasaw; only a few of the Damson, or blue varieties, were noticed in the market. The season of 1888 was remarkably favorable for the plum, moisture enough to grow and mature a large crop — cool and just right at gathering time. The cause of the failure of the plum crop is, by some, supposed to be the want of proper fertilizing of the bloom; hence the idea of mixing up varieties in the same orchard, in hopes that one variety would fertilize the other; and it has been said, too, that the plum must be set near the cherry or peach, so that they can help to fertilize.

The summer of 1888 has demonstrated, to my mind, that the above theories are all wrong. The fruit in question blooms very early, and when in full bloom is very sensitive to cold. The bloom, all will admit, is perfect. A frosty night right in the time of full bloom has spoiled the plum crop every time with me. We always want nearly a week of fine, warm, growing weather when the plum trees are in bloom to insure a crop.

This year, in blooming time, we had nice warm weather for one week, the next week was cold and frosty, but the little plum was formed and in his cap out of the way of Jack Frost.

In this section I notice that soil and location will make a great difference. On a farm, only a few miles away, is a plum orchard located on rather cold prairie soil. The crop was a failure. Why? Because the blooms were more backward and didn't come out in time to get the benefit of the warm week above mentioned. I noticed this particularly with the Wild Goose variety.

The late varieties were more plenty in the Quincy market. All looked like Chickasaw. If there were any Miner's or Weaver's, or any other of the new varieties, I could not tell them from the Chickasaw, all looked alike.

The Quincy market used a great many plums this year. In

Wild Goose time one dollar and fifty cents per case of twenty-four quarts was the price grocers paid. In the time of the Chickasaws the market was overstocked by large quantites being shipped in from Missouri and other points, grocers paid seventy-five to one hundred cents per bushel; Damsons, three dollars per bushel. There are two peculiarities about the red plums to mention: First, if the summer heat in ripening time gets over ninety degrees in the shade, the plums will sun-burn. Second, too much moist or rainy weather in ripening time causes them to burst.

The Wild Goose is the best for all purposes, I think, especially for eating out of hand. The late varieties are sour and harder flesh, but keep longer, perhaps because it is cooler. The bright, lively tart or sour of our red plums seems to be relished by most people after the season of strawberries and raspberries, but it is certainly quite expensive. The sugar bill gets larger right away. Just why the little Damson should command a better price in the market I can't tell, unless on account of color and scarcity.

I have just set out a variety imported from Canada, called "Sugar Plum," — or, perhaps, the proper name is Sweet Damson,— said to be less sour than the ordinary Damson. The tree is a better grower than the Damson, indeed grows almost as lively as the Wild Goose; what it will amount to I don't know, of course.

But the fact is that the man who succeeds in getting a large, blue plum adapted to this section will be one good big one ahead. In my experience I find that the plum should have plenty of room. You can't get plums where each way trees are full size, sixteen feet apart. A plum patch near the timber will not do, too many insects, too much shade; plums small, scabby and specked.

To set plum trees along a road fence, or other stationary fence, in good soil, cultivating on one side, and keeping weeds and grass mowed, is just as good a plan as any; and always bear in mind that the roots of the plum tree grow close to the surface. I have plum trees which have not been cultivated that bore good crops this year.

The cherry, canned or dried, is certainly one of the most palatable of fruits to a good, healthy person, and yet, for profit or market, it is almost entirely discarded in our part of the country. The great trouble seems to be that the birds love cherries too. A few cherry trees will not do, because the birds take them away even before they get ripe.

To plant largely for market, there are so many failures, and, when a crop is obtained, the cost of picking and boxing, etc., and selling for about four to five cents per quart, leaves for the grower little profit, Indeed, with us, it is hard work to get boys and girls that will climb the ladders so high to pick the fruit.

To add to my report a little, I stepped into Flaiz Bros. grocery

store, Quincy, Illinois, to inspect the dried fruit for sale. I found a nice assortment, mostly California, some Eastern.

The following is a list of stone fruits, dried or evaporated, prices added: Golden Drop Prune, evaporated or raisin cured very fine, look like very large raisins, California fruit, sells at twenty cents per pound; California Silver Prune, very fine and large, evaporated, twenty cents per pound; German Prune, California, large evaporated, twelve and one-half cents per pound; small California German Prune, ten cents; unpeeled California Peaches, evaporated, seventeen and one-half cents per pound; unpeeled California Peaches, sun dried, fifteen cents per pound; peeled California Peaches, large, halves, evaporated, twenty-five cents per per pound; California Apricots, evaporated, twenty cents per pound; Pitted Cherries, evaporated, twenty-five cents per pound; peeled Eastern Peaches, large, halves, evaporated, twenty-five cents per pound.

The French or German Prunes, imported, are now superseded to a great extent by the California Prunes.

The Turkish Prune, imported in large hogsheads, is the cheapest dried fruit on the market. The Turkish Prune is not very good eating. The sugar required to make the Wild Goose or Chickasaw plums good sauce would more than pay for the same quantity of prunes. This Turkish Prune is usually retailed, in Quincy, at five cents per pound, sometimes as low as four cents. The wholesale price laid down in New York is three to three and one-fourth cents, and delivered here, in Quincy, is about four cents. Large quantities of this fruit are no doubt consumed in the United States. I did not take time to look up the Mills' Tariff Bill to see if it is imported free of duty. It looks as though these fruit growers over the water must surely work for nothing and board themselves, tariff or no tariff.

Mr. Riehl — We have this year gathered a crop of peaches for the first time in seven years. Some have failed, even this year, on account of unproductive varieties. I have discarded the Crawford's and all varieties of that grade of hardiness. Amelia, Smock and the Chinese family are large and showy, and hardy in tree and bud. I had specimens of Wilkin's which measured twelve and a half inches in circumference. I did considerable thinning from many of my trees, taking from half to two-thirds of their fruit.

Mr. Hay — Can anyone explain why the Damson plum is in such demand and sells at such high prices, when there are so many better plums in the market ?

Mr. Pearson — The Damson has a character of its own and

when preserved is very fine. It is too sour for eating, but for cooking, is just what we need. I don't think it worth while to waste time and sugar on such fruit as Chickasaw and Miner.

REPORT OF AD-INTERIM COMMITTEE FOR CENTRAL ILLINOIS.

BY C. N. DENNIS, HAMILTON.

Left Hamilton in the afternoon of May 22d, in response to a telegram from Griggsville, in company with A. C. Hammond. Crops were promising along our route. We were met at the depot by Mr. Richard Perry and conducted to an excellent stopping-place previously provided by him. On the morning of the 23d, Mr Gidson Cadwell provided a team in which himself, Mr. Frank Cadwell, Mr. Richard Perry, Mr. William Hovey, Secretary A. C. Hammond and myself started on a trip of inspection of some of the many orchards of the neighborhood, first visiting the fruithouse of Mr. William Hovey, a large brick structure, eighty or one hundred feet long by twenty-five or thirty wide, divided into two stories, with a filled space overhead and hollow walls,—should presume a good place to temporarily store apples, but not sufficiently provided for protection from heat or cold. Next, passing through his orchard, we found the mistake frequently seen of too close planting. Trees twenty-eight feet apart, with low heads and only a portion of which had been trimmed, in the other portions it was necessary to raise limbs and turn from side to side to walk through. There was but very little fruit, and canker worms devastating the foliage. That the orchard, which was on good ground, will prove an entire failure, unless thinned, viz: cutting out part and trimming, is my prediction.

Passing on by several smaller orchards, all looking fairly healthy as also does a smaller one of Mr. Hovey's, we came to the 160-acre orchard of Frank Cadwell. Here is a curiosity, every degree of inclination from perfectly flat to so steep that a team cannot get up or down, sloping to every point of the compass, with very many kinds of apples. But Ben Davis and Willow Twig in excess of others. Mr. Cadwell says, if replanting it, he would set Ben Davis, Willow Twig and Rome Beauty entirely.

In the afternoon of the 23d we met with some of the horticulturally inclined and they re-organized the Griggsville Horticultural Society, with Richard Perry, for President; Frank Cadwell, Vice-President; Robert Allen, Secretary and James Morrison, Treasurer. And I noticed that in the report of their last meeting, 1877, apples were reported from one-fourth to one-eighth crop. This Society was formed, February 16th, 1867 and called Horticultural Society of Pike County.

From all I could see the orchards of Pike County were in far more than average condition. But with the canker worm so well established they will have to wage an energetic war or retrograde. Saw from the cars on the Illinois river bottom, apple trees twelve to fifteen inches through, appearing perfectly healthy and think from the shape of the trees that they were Rome Beauty. This was sandy second bottom.

Returning to Bluffs we passed to Jacksonville, in Morgan County, and called on A. L. Hay. From him we learned that canker worm had completely defoliated some orchards, and it is a question if a person ought to be allowed to let them remain and multiply, even in their own orchards. Morning of 24th called on our friend J. Heinl, and learned that plums had been partially destroyed by frost, but otherwise a flattering prospect for a good fruit crop.

Wheat was looking very promising within the whole valley of the Illinois river, as far as we could see from the cars as we traversed it going to and fro, but have since learned that the crop was not as then seemed probable.

This was the only trip taken by me during the season as a purely horticultural one. But on a trip in June, to Rock Island, passing up the Mississippi bottoms, most of the way (viz., just under the bluffs), I noticed a marked difference from the condition of the trees on Illinois bottom, apparently similarly situated, scarcely a healthy tree to be seen. And on the return through Rock Island, Henry, and a small portion of Mercer and Knox counties, scarcely a healthy tree was to be seen. In Warren county the condition began to improve, and it and McDonough showed some trees looking fairly well, although not strictly healthy.

During several trips through Adams, Brown and Hancock counties, I have observed abundant crops of apples. But many of the trees exhausted all their vitality to mature the crop and the apples not as large as usual, while trees that were unable to mature their crop was not an unusual thing. Pears and Plums gave a good crop where the fruit was uninjured in the spring. Small fruits (except cherries) were generally as good as could have been expected considering the feeble and scattered condition of the vines, etc., from the excessive drouth of the previous season.

Young orchards where well cared for are looking reasonably well and in all of my observations I have scarcely seen a case of blight on either apple or pear, and in our own planting in orchards of about a hundred pear trees in the last two years, I do not know that we have lost a tree. Peach trees have not suffered as much as formerly.

Small fruit suffered much by drouth during 1887.

SPRAYING FRUIT TREES.

BY A. C. HAMMOND, WARSAW.

Years ago orchardists felt that something must be done to keep in check the three great pests of the fruit grower, the codling moth, canker worm and curculio, or they would be driven from the field; therefore, our entomologists and practical orchardists went to work with a will, to find some means of combating them, and the result has been so gratifying that the orchardist now feels assured that these troublesome insects can be so far controlled that they will do but slight injury.

Last season the apple crop was so light that nearly every specimen, where no efforts were made to destroy them, contained one or more worms, but, where the trees were carefully sprayed a very small per cent. contained a larva. The experiments therefore made at that time were very conclusive and showed that a large per cent. of our apples can be saved, even in an unfavorable year.

This season the conditions were reversed, as the short crop, and in many places entire failure, of last year, furnished but little fruit for them to breed in and the work of the few moths that infested our orchards was scarcely perceptible.

Now, when the moth has been reduced by natural causes, is the time for orchardists to spray their trees, for if this is done annually, they can be so kept in check that we can grow sound, perfect fruit, instead of finding a disgusting worm in every specimen.

In speaking of this question a year ago, I said I was quite positive the poisonous application diminished the curculio in my orchard, and the result of this year's experiment confirms me in the opinion that it can be in a great measure controlled, and that most-dreaded of all orchard insects, the canker worm, can be kept within safe bounds, if not entirely exterminated.

As this method of destroying orchard insects is destined to come into general use, it may be well to call attention to the danger of injury to the trees.

Last season I used a small force pump, which throws a light spray, and with a pound of London Purple to eighty gallons of water, scorched the leaves but slightly. This season, desiring to reach the top of some large trees, I procured a Field Force Pump, which throws a larger stream and drives it in among the leaves with considerable force and, although, I reduced the strength to one pound to one hundred and twenty gallons of water, I found the leaves more injured than the previous year, caused, no doubt, by using a larger quantity of the solution. I think there is nothing superior to the Field spraying outfit for this purpose. The nozzle is adjustable and can be made to throw a very fine spray. When the trees are small or where it is desired to reach the top of larger trees,

a turn of the nozzle will properly adjust it for that purpose. The finer the spray the better the work, and less the liability to injure the leaves.

My attention was called to the danger of a too liberal application by noticing several trees badly burned, and learning from the operators that, as they were very full of fruit, they turned the full force of the coarse spray on them to make sure that every worm was killed. We may, therefore, conclude that it requires considerable judgment to decide just how much of the solution to apply to produce the best results.

I would advise those who use the Field Force Pump to further reduce the strength of the mixture, as it is evident that the quantity of spray from this pump, being larger and thrown with more force than the smaller ones, should be of less strength.

About the 20th of May, with Mr. C. N. Dennis, I visited the large commercial orchard of Mr. Frank Cadwell, near Griggsville, Pike county, and found him spraying for both codling moth and canker worm. Last year his orchard was literally alive with canker worms, and, as an experimennt, he sprayed a portion of it; where the first spraying was done very few could be found this year, but where done a few days later but little good was accomplished, the insects having probably passed the leaf-eating period.

We carefully examined a number of trees sprayed a few days previous and found that the poison had done its work. I noticed that the men having the work in charge had, as in my own orchard, determined to do thorough work where the canker worms were very numerous, and had taken off the spray nozzle and broke the stream into a coarse spray by placing their thumb on the nozzle. Mr. Cadwell has since informed me that the leaves were badly scorched, but as the insects were thoroughly destroyed he does not regret it.

In Clay county, which is one of the principal apple-growing regions of the State, considerable of this work has been done, and Mr. Thos. Lowry, communicates a very singular instance of injury. Last season he sprayed one side of a row of apple trees from the bottom of a tank in which the poison had carelessly been allowed to settle (he used Paris Green), the other side not being sprayed at all. This season the side that was not sprayed was very full of fruit, while the sprayed side bore none.

Mr. Lowry advances no theory for this singular freak, nor can I conceive of a reasonable one. The fruit buds were not formed at the time the spraying was done, and could not, therefore, have been injured, and as the foliage is healthy, it is scarcely possible that the leaf-buds were affected by the poison. This, of course, is an exceptional case, but shows the necessity of caution in making the application,

Mr. Lowry closes his interesting communication by saying that

the use of arsenical poisons has become a necessity to the orchardist, but they should be used with extreme caution. Next season he will use a weaker mixture, about one ounce of Paris Green to fifteen gallons of water.

Mr. J. M. Cunningham, of the same county, speaking of the crop of winter apples, says "they are affected by a rust and otherwise not as smooth as usual. The cause of this defect would require a close investigation, but my opinion is that it is caused by the extreme drouth of last season; also, I think, aided by the free use of arsenical poisons. I will state why I make this assertion. May 11th, 12th and 13th I sprayed my orchard, using one and one-eighth of an ounce of Paris Green to ten gallons of water, spraying the trees till the leaves were thoroughly wet, and am sure that the trees were damaged by the effect of it. One-half of the leaves dropped in from two to four weeks. Other orchards were badly injured by the use of London Purple. In all these orchards many of the apples dropped with the leaves, and the trees grew but little during the season. While I believe these poisons are great insect destroyers, I would advise caution in their use; for if used as strong as is generally recommended, I believe the trees will be damaged. But what shall we do? Shall we allow the insects to destroy our trees and fruit, or shall we fight them with the poison as recommended?"

Fight them, by all means, even though some danger attends the application. I am very sure that ninety per cent. of our fruit can be saved from the codling moth; that the canker worm can be entirely exterminated, and the curculio kept in check by these poisonous applications. I am also sure that if used too strong, or in too large quantities, the leaves will be injured, and with the leaves, the trees and fruit. It has occurred to me that if a strong application, especially of Paris Green, is used it may be an exciting cause of scab, but further experiments will be required to settle this point.

After a number of careful experiments and considerable observation, I have come to the conclusion that London Purple is less liable to injure leaves and fruit than Paris Green, and that a weaker solution — about one pound to one hundred and fifty gallons of water is sufficiently strong.

Knowing that Dr. Douglass, of Calhoun county — who is one of the largest and most successful orchardists in the State — had been experimenting with London Purple, I wrote to him, asking for the results of his experiments, intending to incorporate it in the above paper; but, as it came too late to use in that way, I give it entire as it contains just the information that many orchardists are seeking for.

BATCHTOWN, ILL.

MR. A. C. HAMMOND, *Sec. Horticultural Society*, WARSAW, ILL.

Dear Sir:— In compliance with your request for an account of my experience in spraying apple trees to protect the fruit against the ravages of orchard pests, I submit the following:

After having read the published account of your experiment in the spring of 1887, and the good results claimed by you, I last spring bought a P. G. Lewis Force Pump and a quantity of London Purple. I put a forty-five gallon barrel on a wagon — filled the barrel nearly full of water, then thoroughly stirred 5 oz. of the poison into a bucket of water and poured that into the barrel, stirring it well in the barrel, hooked the pump in the staple in the bottom of the bucket, filled the bucket with the poisoned water in barrel and commenced spraying by driving the wagon close along one side of the row of trees and back the other side; but I soon found that too slow a process. So I ordered a Field's Improved Force Pump, manufactured by The Field Force Pump Co., of Lockport, N. Y.— cost fourteen dollars. The suction pipe of this pump passes down through a hole in the head of the barrel, the pipe reaching nearly to the bottom of the barrel, the pump being held in position on the head of the barrel by screwing it fast to head of the barrel.

The poison for use by this pump is prepared the same as for the Lewis Pump, but, as both heads are in the barrel, it has to be poured in through a funnel. The hole in which the funnel is used serves to introduce a stick, reaching to the bottom of the barrel, with which to stir the contents, so as to keep the poison well mixed in the barrel.

I found the Field Force Pump a great deal more expeditious than the Lewis Pump. With the Field Pump we drove midway between two rows of trees, and sprayed the proximate sides of the two rows at one trip through. With it we could easily reach the tops of the tallest trees on both sides of the wagon.

We sprayed about 2,000 of our trees, and are well pleased with the result,— the fruit on the sprayed trees being very much smoother than that on the unsprayed, and almost entirely free from worms.

The best case for comparison I got from two separate blocks of Willow Twig trees that stand about two hundred yards apart,— both blocks the same age, being ten years old last spring. From the sprayed block of trees, eighty-five in number, we gathered ninety-three barrels of the largest and smoothest Willow Twigs that I ever saw, and I do not believe that there were eight barrels of waste apples, or culls, left on the ground from the whole block of eighty-five trees; while from the other, or unsprayed, block of seventy-five trees, we got only thirteen barrels, leaving the ground literally paved with wormy and specked apples.

I am so thoroughly convinced of the immense benefits resulting from spraying that I shall use it more largely next spring.

In justice to "The Lewis Pump" I would say that it is all that is required for an orchard of 300 or 400 trees, and for use against the potato bug, and for garden purposes; but for large orchards I would prefer "The Field's Force Pump" with a double hose. One man can hold and direct both hose, while another works the pump, thus doing twice as much work in the same length of time.

As to the time for spraying, I would begin as soon as the trees are in full bloom and continue the work as long as the apple stands erect on the stem. I think it would be dangerous to use the spray after the apple gets heavy enough to hang downward from the stem, as then the poison would lodge in the cavity around the stem and remain there, in spite of the washing of subsequent rainfalls.

London Purple not only destroys the progeny of the codling moth, but it seems to be a death dealing agent to all insects that prey upon the fruit and foliage of the apple tree. In one portion of my orchard last spring, the measuring worms were getting quite numerous, and were rapidly stripping the trees of their leaves. We gave them a dose of London Purple, and two days afterward a live worm could hardly be found in that part of the orchard; but there were plenty of dead ones swinging by their webs from the leaves that were left on the trees So taking it all in all I think that we have in London Purple, rightly applied, a safe and efficient remedy against most of the fruit and leaf eating insect enemies of the orchardist.

Respectfully submitted,

J. R. DOUGLASS.

Mr. Vaughan — I have had some experience with poisons in the orchard and prefer arsenic, as a solution can be made by boiling, that will not readily precipitate. It is generally used too strong. One pound to four hundred gallons of water, I think, is strong enough.

Dr. Hall — Mr. Dixon, of Iowa, first experimented with arsenical poisons. He used one pound to one hundred and fifty gallons of water, but I find that half that strength will often scorch the leaves. I like the Nixon pump and nozzle better than any other I have seen in operation.

Mr. Coe — The agent of the Nixon pump came to Quincy and tried to sell this pump for $35.00. This is much too high. I therefore procured a cheap pump and went to work with a solution of one pound of London Purple to one hundred and twenty gallons of water. Where I sprayed I had nice, smooth fruit.

Mr. Mortimer — This is a question every horticulturist is interested in, and much good will result from the discussion. There is, of course, some danger connected with the operation. Stock should not be allowed in the orchard until a rain has washed the poison from the grass.

Mr. L. R. Bryant — I take a large cask and rig a Field Force Pump on it, put in the water and poison at the house, and before I get to the orchard it is thoroughly mixed.

Mr. C. N. Dennis — I used a Field Force Pump and one pound of London Purple to one hundred and fifty gallons of water, and did not notice any injury to the leaves. We threw away the spraying nozzle and made a coarse spray by using the thumb.

Mr. Cadwell — I have an orchard of 170 acres, and found it necessary to spray, this season, for both canker worms and codling moths. When the wind was blowing, the tops of the trees could not be reached with the spray nozzle. The operator therefore took it off and broke the stream into a coarse spray by placing his thumb on the nozzle. By this means the tops of the highest trees can be reached, and the water will drip down through the leaves, wetting them thoroughly. I use two tanks such as steam threshers use for hauling water, and in driving to the orchard the London Purple is well mixed with the water. In 1887, I tried spraying on a small scale and was so well pleased with the result, that this season I sprayed my entire orchard, and had an immense crop of fruit, which I sold considerably above the the market price. There are places in my orchard where there was not one per cent. of waste, and scarcely two per cent. of second grade fruit. I consider the danger to animal life very small. While we were spraying, a dog drank from a leakage of the tank and received no harm.

Mr. Dunlap — As we had no fruit, and consequently few worms last season, I concluded that we should have few this year and, therefore, did not spray my orchards and had good fruit.

Mr. Beeby — I sprayed my orchard and had fine fruit. My neighbors, who did not spray, also had good fruit. All orchards were remarkably exempt from codling moth this year.

Mr. Pearson — I wish to ask Mr. Hammond how many gallons of the solution are required for an ordinary-sized tree?

Answer — One gallon, if properly applied; but more may be used with safety.

Mr. Pearson — Is the early dropping of apples arrested by spraying?

Mr. Hammond — As far as it is caused by codling moth — and much if it is caused by their work — yes.

The President appointed the following gentlemen as a committee to award the special premiums offered by the Alton Southern Horticultural Society: C. N. Dennis, Arthur Bryant and Frank Cadwell.

REPORT OF COMMITTEE TO RECOMMEND LIST OF VEGETABLES FOR FARMERS' GARDENS.

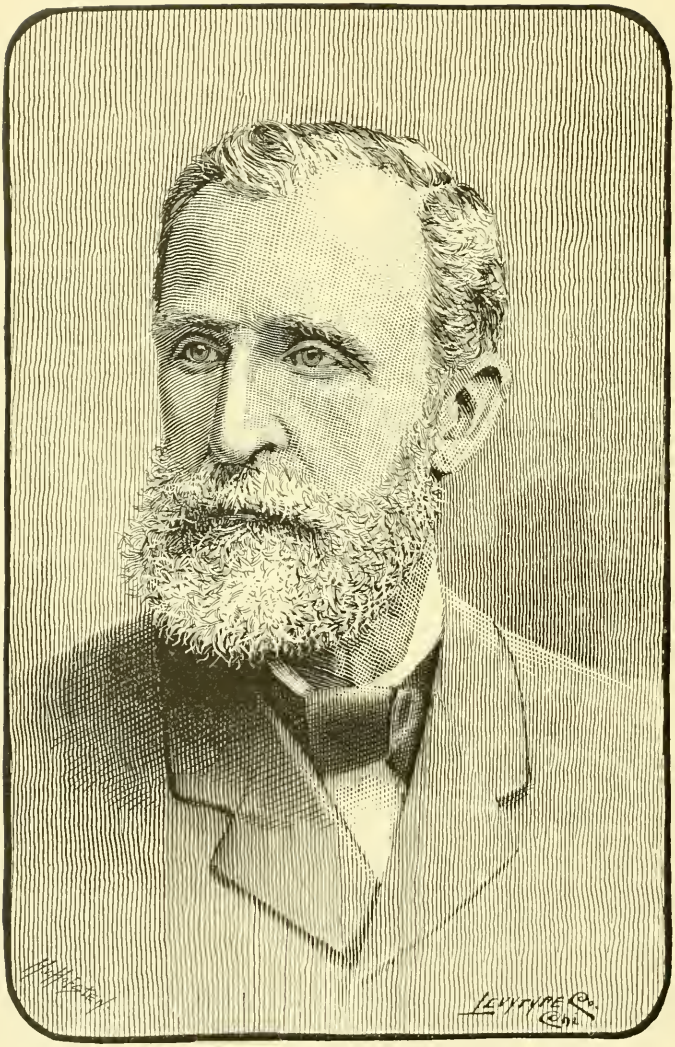
Mr. President and Members of the State Horticultural Society:

We only propose to recommend such work for a Farmer's Kitchen Garden as anyone can have, and do without hot-beds, or any of the appliances of the market gardener.

Presuming that the ground is in good tilth, next spring select a spot well drained and with a southern exposure and plant, as soon as the ground can be worked, radishes and lettuce and follow the radishes at intervals of ten days. At the same time plant the earliest pea. It is probably best to plant, for earliest, one of the small, smooth peas, say Landuth's Extra Early, and follow it in a few days with American Wonder, and these again with one of the later wrinkled peas, although two plantings of American Wonder are good with us. If now a bed of asparagus has been started before, one is pretty well fixed until June. Beets (Early Egyptian) and onion sets and salsify can go into the ground as soon as the ground will work easily. Cabbage and tomato plants can be had in the market of the professional gardener, better and cheaper than the farmer can raise them. The former must be planted early and the latter need not go into the ground until about May 10. Do not plant too much of any one kind, as it is far better to have a regular succession, than a superabundance for a short time, and then nothing. Bush beans and sweetcorn come on later,—little is gained by very early planting of these, as a slight frost will set them back sadly. Lima beans, we cannot do without, and are among the last things to be planted. Do not allow more than three plants to grow in one hill, otherwise you will have more vines than beans.

As fast as a crop of any kind is harvested, clear the ground and put in a late crop,—turnips can be grown after peas and require but little attention. In spite of all our improvements, a good deal of the work must be done by hand. The amount to be done is so small that it will not pay to use a horse. A good deal of the work can be done at odd times, with no damage to the main work, if one will only watch and improve the spare moments. Cucumbers and melons can be started two weeks earlier than usual, by making a miniature hot-bed, without frame or glass, thus: dig a hole one foot square, eighteen inches deep, and fill with fresh stable manure, and sift over it three inches of soil, and then form a little pit with a six-inch pot banking the earth around it, remove the pot and plant seeds in the bottom of the pit and cover with a thin board, a piece of tin, or better yet, with a piece of window-glass.

Cultivation, will do wonders, and must be frequent; while the plants are small, do not let weeds show themselves at all. Rhubarb



MILO BARNARD

Late President of the Illinois State Horticultural Society.

and horse-radish should be set where they can remain for several years and be well fed with manure. This does not give best results but will answer for home use and save time at the busy time.

We believe the above will furnish an ordinary family with an abundance of healthy vegetables and fill a gap on the bill of fare so frequent on the farmer's table.

Varieties of these different things could be named, but it would extend this report to, too great a length. Let each one talk with his neighbors and swap items and seeds; but as a rule, good seeds can be as well bought as saved. The cost is small and with us the results are better.

JNO. M. PEARSON,
H. L. DOAN,
G. W. MCCLEUR,
Committee.

Mr. Hay — The success of gardening depends largely on manure. A rich, well-cultivated soil will push vegetables forward rapidly, but without manure it is useless to expect an early garden.

WEDNESDAY EVENING.

The meeting was called to order at 7:30. The first paper for the evening was

OUR LATE PRESIDENT.

BY HENRY MORTIMER, MANTENO.

At the annual meeting of the Illinois State Horticultural Society, held in Princeton last December, Milo Barnard was elected president for the ensuing year. That meeting was a very pleasant and instructive one. The many able papers read and the valuable discussions following encouraged horticulturists, and many have looked forward with interest to our present meeting for a continuance of the good work. There is, however, a feeling of sadness when we realize that he whom we honored with the presidency of this Society, only one year ago, has been called from the field of his labors here to the Great Eternal beyond the "shores of time."

Milo Barnard was born July 20th, 1831, in Economy, Wayne county, Indiana. In 1835 his parents located in LaPorte county, of the same State, where the subject of this sketch resided until 1857,

when he came to Manteno, Illinois, near which place he lived until his death, which occurred on the 7th of May of the present year.

When fifteen years of age he took charge of a nursery, and was connected with that business the greater part of his life. He was of Quaker parentage, and his educational advantages were limited to a good district school.

On August 13, 1852, he married Miss Jane Williams, a most estimable lady. Three children, Alice, Park and Lee, blessed this union, of whom only Lee, who is twenty-six years old, and the youngest, is living. Although without the advantages of a collegiate course of studies, Mr. Barnard was an educated man. Throughout his life he was a very close student, not only of the art he loved, but of every subject that has a tendency to elevate the human race. His various contributions to the *Prairie Farmer* and other papers show an extensive range of thought and a felicitous expression, which command the respect of his fellow-men.

In all questions concerning horticulture, agriculture and their kindred subjects, he was extremely well informed. As an educator on these lines of thought and work, his town and county has abundant testimony. To his judgment, intelligence and industry the Kankakee Valley Horticultural Society is largely indebted for its inception and continuance. Since its commencement in 1877, with the exception of two years up to the time of his death, Mr. Barnard was its chief officer, and no business of his own, however pressing, ever prevented him from attending its meetings.

Some years ago when he was elected President of the Agricultural Fair Association, of Kankakee County, he found this institution heavily encumbered with debt, and its friends and working members more or less discouraged. With the aid of the Executive Committee, he succeeded in passing a resolution, authorizing the sale of life membership tickets at fifteen dollars each. By appeals in the local press, and visits through the county, he secured all the members needed to pay off the debt. Since that time several improvements have been made, and the Association is in a prospering condition.

Year after year he was elected Supervisor of the Town of Manteno, and in the Board, whether as a member or President of that body, his opinions always commanded respect, and received careful consideration.

At the meeting of the Horticultural Society of Northern Illinois, held in Chicago, in January 1886, Mr. Barnard was elected President for the ensuing year. During the succeeding autumn he personally visited Prof. Budd and other prominent horticulturists; he also corresponded with fruit growers in different parts of our State, and the result was a grand success for the meeting held in Kankakee in January, 1887. His power of adaptation to different persons and circumstances was very large. The child clearly understood the simple and

pleasant words addressed to him. The farmer and fruit grower could always command his time and attention and rely on him for sound advice.

The statesman found in him an interesting companion, and one who was thoroughly informed on all the political issues of the day. His faculty of observation was sharp and comprehensive. The object and motives of men he carefully analyzed, and seldom failed to reach correct conclusions. He had an almost sacred regard for the rights of others, and was extremely careful to avoid giving offence to any one. He was universally esteemed in the community where he lived. Although his funeral was early in May, at a time when the farmers were most busily engaged, it was one of the most largely attended that the writer has ever seen in Manteno. The Board of Supervisors attended in a body to pay their last tribute of respect to their honored comrade.

During many of the later years of his life he spent a great deal of his time in experimenting with tree and small fruits, not for any profit that he expected to reap from such work, but for the good of others. None knew better than he that such labor is unprofitable. But he loved it, and he worked, not ceasing on account of the weather, and often regardless of his own physical comfort, trying and hoping to find the apple, the pear, the cherry, and other fruits that would be desirable and successful in Northern Illinois. Although from boyhood Mr. Barnard was looking for fruits that would flourish in his part of our country, at no time in life was he more busily engaged or more hopeful of success than during the last two or three months preceding his death.

He had trees of different kinds and varieties from Prof. Budd, of Iowa, and Peter M. Gideon, of Minnesota, besides numerous specimens from other localities. He had also collected a great many varieties of the strawberry and other small fruits, and he looked forward anxiously and hopefully to the time of their fruiting. But in the very height of his work, he was suddenly called from the scene of his earthly labors at a time when his numerous friends might reasonably hope that many more years of his useful life would be spared to him. We all know that life is always uncertain, but when asked why this is so we cannot fully answer. We can only say that the finite cannot comprehend the infinite. We bow in humble submission to the will of the Omnipotent Ruler of the Universe, "who doeth all things well."

Mr. Barnard was a kind husband, an affectionate father, a steadfast friend, an obliging neighbor. He leaves a void in the community where he lived that cannot be filled. But his memory will live in his labors and his teachings. Wherever trees are planted for shade or fruit, and wherever flowers bloom, they will remind us of our friend who cared for them and advocated their culture. He was

one of nature's noblemen of whom it can be truthfully said that "the world is better for his having lived in it."

The following resolutions, relative to the death of President Milo Barnard and D. Wilmot Scott, were read by Mr. Mortimer and approved by the Society:

WHEREAS, Milo Barnard, who was elected President of this Society one year ago, has, by the hand of death, been removed from the scene of his earthly labors and the field of his great usefulness; therefore be it

Resolved, That the members of this Society have heard with feelings of profound sorrow and regret of the decease of their friend, who departed this life on the seventh of May, of the present year.

Resolved, That as a friend and an intelligent laborer in that art "which doth mend Nature," this Society has sustained a grievous loss, and the community has lost an upright and honorable citizen.

Resolved, That while we express our heartfelt sorrow for this affliction, we tender to his bereaved family the assurance of our kindest sympathy, and bow in humble deference to the will of an All-Wise Providence.

Resolved, That these resolutions be recorded in our Transactions, and a copy thereof sent to the family of our departed friend.

WHEREAS, It has pleased Almighty God to remove our brother and friend in horticulture, D. Wilmot Scott, of Galena, Illinois,

Resolved, That in the death of our brother, we have sustained the loss of a genial friend, a zealous horticulturist and a tireless worker in all that pertained to horticultural advancement. As secretary for many years, and finally as president of the Northern Horticultural Society of Illinois, as secretary of the American Nurserymen's Association, from its organization, and in numerous other capacities, he was known to the horticulturists all over the United States. We hereby tender our sincere sympathies to his bereaved family.

Respectfully submitted,

S. G. MINKLER,
HENRY MORTIMER,
Committee.

The Committee on Fruit Lists for Southern Illinois submitted the following, which was adopted:

LIST OF APPLES RECOMMENDED FOR SOUTHERN ILLINOIS.

We, your Committee on Apple Lists for Southern Illinois, recommend the following:

EARLY SUMMER.

Benoni, Red June, Early Harvest.

LATE SUMMER.

Chenango Strawberry, Lowell, Maiden's Blush.

FALL.

Jonathan, Mother, Grimes' Golden.

WINTER.

Ben Davis, Wine Sap, Minkler, Rome Beauty.

RECOMMENDED FOR TRIAL.

Yellow Transparent, Fink, Neil's Keeper, Picket, Crain Spice, Indian, Black Twig.

W. R. Crain,
J. Webster,
Jacob Auer,
Committee.

The Committee for Central Illinois recommended the following list, which drew out a spirited discussion, but was finally adopted with the addition of Duchesse.

LIST OF APPLES FOR CENTRAL ILLINOIS.

SUMMER.

Red Astrachan — Family and market.
Benoni — Family and market.

FALL.

Maiden's Blush — Family and market.
Wealthy — Family and market.
Ramsdell's Sweet — Family.

EARLY WINTER.

Jonathan — Family and market.
Grimes' Golden — Family and market.

LATE WINTER.

Ben Davis — Market.
Willow Twig — Market.
Minkler — Family.

C. N. Dennis,
F. Cadwell,
C. B. Rockwell,
Committee.

Dr. Hall — Why does the committee say Red Astrachan instead of Duchesse. We get three times as much fruit from the Duchesse. Duchesse, Maiden's Blush and Willow are the three apples for profit in Central Illinois. Jonathan is one of the best everywhere.

Mr. Hay — Years ago I had Red Astrachan trees that grew vigorously but did not bear. Dr. Hall said root prune them, which I did, and they bore enormously.

Mr. Augustine — The committee have overlooked the Fameuse. I think it should be in every collection, I think the Red Astrachan does well on some soils, but never in rich prairie soil.

Mr. Johnson — We have a splendid fruit show down stairs comprising many valuable varieties, but we can't grow them all in the family orchard. The committee has given us a good list that I am willing to accept.

President Dunlap — Red Astrachan is a valuable apple, but if I could have but one I should prefer Duchesse. For family use I would plant Fameuse. Stanard is a fine looking apple that I think well of. If I was confined to four varieties, they would be Duchesse, Maiden's Blush, Ben Davis and Willow.

On motion of Mr. Augustine, the Duchesse was added to the list for Central Illinois.

The committee made the following recommendations for Northern Illinois, which were adopted :

SUMMER.

Benoni, Duchesse.

FALL.

Maiden's Blush, Cayuga Red Streak, Fameuse, Wealthy.

WINTER.

Jonathan, Ben Davis, Willow Twig, Roman Stem, Minkler.

S. G. Minkler,
Henry Mortimer,
L. R. Bryant,
Committee.

NEW FRUITS.

BY A. L. HAY, JACKSONVILLE.

"There is divinity that shapes our ends, rough hew them as we may." Or, in the language of one who got his punctuation a little mixed: "There is a divinity that shapes our ends rough, hew them as we may."

Certainly, there was a president, secretary, or a somebody who shaped the upper (or title end) of this, what ought to be a report on new fruits, to be read before this Society, and left the herculean task of adding the bottom and sides to one who knows as little about new fruits as Horace Greeley knew about theology, or as Henry Ward Beecher knew about farming.

Upon receiving notice from your Secretary, that I would be expected to make a report upon the above subject at this time, my thoughts at once reverted (I believe that is the Latin phrase for turning back) some three thousand years to the time of King Solomon, who is supposed to have had more wisdom and more experience in managing a family and paying millinery bills than any other man who had lived up to the time of our own illustrious and lamented Brigham Young, and after giving his heart to seek and search out by wisdom concerning all things that are done under heaven, he was led to exclaim: "There is no new thing under the sun," and added, "Is there anything whereof it may be said: See, this is new, it hath been already of old time which was before us."

Now, taking Solomon's view of this subject, and certainly his conclusions are worthy of consideration, may we not be justified in the belief that at that very early period in the world's history, this noted ancient monarch had barrels of Wythe, Pewaukee and Wealthy apples stored in his refrigerator, or that his gardens were profusely supplied with the Wild-Goose Crab or Russian Mulberry Plum; or who can doubt that barrel after barrel of Russian crab cider or Niagara grape wine lined his cellar from the beginning of his reign until the ending thereof, or that much of his time was devoted to the study of his Maiden's Blush or his Ladies' Favorite apples, while in his vineyards and orchards might have been found, in luxuriant bearing, our newest and choicest varieties of grapes, peaches, plums, etc., without end. But if we were to strictly adopt this Solomonic view of things, I fear that we should make no permanent progress in horticulture, for all investigations and experiments would cease and everybody would be content to eat sour grapes and other inferior fruits and depend upon plowing up new varieties, or to have them showered upon us by a Divine Providence, just as we are provided with rain and snow. Therefore, whatever may have been Solomon's experience in horticulture, although he spent millions in

planting vineyards and orchards and filling them with the choicest of fruits, I cannot believe that the Egyptian or Israelite of 4,000 or 5,000 years ago, who is to-day being dug out of his long resting place and ground up and used as a fertilizer upon the hills and in the valleys of more advanced and civilized nations, ever feasted upon the choicest horticultural products of to-day. Surely the genius, investigation and forethought, the science and progress of the present age must develop something unknown to the ancients of Solomon's time. We certainly have new ways of committing murder; we have new methods of robbing banks and plundering houses; we have new schemes by the hundreds for swindling the honest and unsuspecting horticulturist out of his scant profits; we have new combinations of liquids and potions for stealing away the senses of men and making them roaring drunk, and while the devil has been so active, aggressive and evidently so successful in his warfare against the pocket-books and souls of mankind, is it possible that the labors of such men as Worder, Downing, Dunlap, Turner, Hall and others shall have been in vain ?

Nay, verily it cannot be! their efforts have certainly met with a great measure of success, which we to-day enjoy and generations to follow will rise up and call them blessed. But in the great struggle for something new is it not possible that we may have been led to neglect the cultivation of some of the old but better varieties. May not this feverish anxiety to swell our bank accounts have led us to plant early and abundant bearing trees or plants at the expense of quality. For instance may not the greed for filthy lucre have induced some and perhaps many of us to plant the Ben Davis instead of the Jonathan apple. I mention these two varieties for the reason that to my mind they represent the two extremes of quality and usefulness, I never think of the Ben Davis, without a cold chill running up my back, and as an article of diet, I would consider a sponge equally as desirable; while the Jonathan seems a foretaste of the angel-food which we all expect to enjoy when we cross that river over which there shall be no returning.

During the past few years this apple, has to me, been a great source of comfort and delight. When financial reverses have overtaken me, and ruin stared me in the face, I have eaten a few Jonathans and my troubles seemed but a dream. If our children were exposed to the mumps, measles, small-pox or whooping cough a few Jonathan apples always served to drive the disease away or tide them lightly over it. During the late political campaign when the fortunes of my adopted party seemed on the wane, I resorted to the same remedy, and the clouds immediately lifted and the rainbow of promise appeared in unusual brightness.

If the bread fails to rise, the stove smokes, or the fire is backward in going forward, my wife sits quietly down and eats a Jonathan

apple, and all trouble and doubt disappears, and the future looks like a rosy-tinted dream.

In fact, it has become the panacea for all the ills our family is heir to. It has superseded pills and paregoric, and doctors have long since ceased to regard us with any degree of favor. The origin of this apple is somewhat obscured by the mists of the past, but it is supposed to have sprung directly from the spot of earth where the first arrow of Jonathan rested from the bow which he drew to warn David to flee from the wrath of his father. And from these ancient days it has been handed down to us as the very best of its kind, and Worder, in his "American Pomology," classes it as the best winter apples for either dessert or cooking. Its season with us, when properly handled, is from October to April. A friend of mine, who has fruited it alongside of Ben Davis, says that it came into bearing earlier than Ben Davis, and has since given him more uniform and regular crops of superior fruit. I do not expect to live long enough to see it superseded by anything better, and those who have lived to a green old age without having made its acquaintance have the sincere sympathy of myself and family.

But, returning to the subject of "New Fruits," as I said before, my experience with new varieties has been very limited, and that is the reason, I suppose, that I have been selected to write up such an important subject; but for two years I have fruited Moore's Early grape with, what I consider, the most eminent success. It appears to be perfectly hardy, ripens ten days or two weeks before the Concord, bears a very heavy, compact bunch of large, fine grapes of good quality. So far, it has not been attacked by rot.

At the same time I planted Brighton, Worden's Seedling and Pocklington, but, like many of my great undertakings in life, their cultivation has resulted mostly in disaster. In fact, from the very start, the omens in this enterprise appeared to be against me. I had scarcely given my order to a smiling and persuasive tree agent, for plants, when it began to rain. They arrived in dew time (or rather, rain time) and as often as I thought of consigning them to their future resting place, the thunders would roar, the lightnings flash, and the rain come tumbling down kersplash. Finally, as the season was rapidly passing away, I determined to hazard everything in an attempt to put the dear little things where they would do the most good. One afternoon, late in April, a ray of sunshine came dancing gladly across my garden, and a sparkling thought danced playfully across my mind. I seized a spade in one hand and the bundle of plants in the other and started out upon an almost bottomless sea of mud, to locate a vineyard for the benefit of a long line of posterity in general, and myself and immediate family in particular; but, alas! alas! the "best laid plans of mice and men gang aft aglee."

(N. B. — The latter thought is not original with me. It is taken

from Horace Greeley's address to the Indians, in 1685, when Wm. Penn made such a solemn treaty with the red men under the now famous old Charter Oak in South Park, Chicago.)

Just after adopting a line of operations and losing one boot in the mud, the clouds returned to their usual occupation, that of weeping like a spoiled child. Then wrapping myself in a rubber coat and a solemn determination to end the matter at once, I rammed the vines down in the mud without regard to labels, varieties or family distinctions, and up to the present time I have not had intimate acquaintance enough with these different varieties to enable me to distinguish one from another, but the one I have supposed to be the Pocklington has been a complete failure. The other varieties have produced fair crops of very ordinary grapes, but have proved so very unsatisfactory that I have since planted nothing but the Concord.

A few years ago I was fortunate in securing a new variety of early summer pear from one of our nurserymen. The name of which, like most other things of minor importance, has passed beyond my jurisdiction, but the tree, alas, has not. It stands as a monument to the folly of one who is ever seeking after something which Solomon declares does not exist. That is, something new. That the tree is properly named, and that it belongs to the the pear family, there can be no doubt, for it bore one single specimen of fruit last year, and another this, which according to Ray's mental arithmetic would make it a pear tree.

Last year a little child was passing bigh,
She saw the pear a hanging high,
And viewed it with an evil eigh;
She ate and hove a painful sigh,
And sought her little bed to digh.

With pills and squills the doctor came,
And made her raise that fruit again.
This year the pear she did not take,
But left it there for me to shake,
I caught it ere it reached the ground,
And found it ripe, but firm and sound.
A pretty golden russet thing,
And hard enough to keep till spring.
I layed it by with greatest care,
Where sun and wind would not impair.

The virtues that I dreamed were there,
And when in time I took it down.
And quartered it and passed it round.
I heard but one sad solemn sound,
Cut down the tree, why cumbereth it the ground ?

If you will dissect this poem carefully you will see that it is divided into Cantos. Canto first, includes the temptation; Canto second, the yielding to temptation; Canto third, the punishment for

yielding with a glimpse at the general result with a number of states yet to hear from. Now as this happened shortly after having feasted for a week or more upon the very choicest Bartletts, a variety which has been so well and favorably known for a century or more, I thought I could forcibly realize the folly of turning away from an old and familiar friend, and seeking after something of which we know nothing, yet I believe with St. Paul, that we should try all things that are new and hold fast that which is good, and while it is impossible for each one of us to experiment with all new varieties of fruits brought to our notice, we may profit by the experience of others.

I have recently received from the Department of Agriculture at Washington a report upon the adaptation of Russian and other fruits to the extreme northern portion of the United States, and as it catalogues over 400 varieties of Russian apples, which have been introduced in this country, it would appear that Russian fruits were rushing over here with a rush that must cost somebody something, but so long as their actual value is to be determined by experiment at our agricultural colleges, it is all well enough; but from the reports of those who have given them a test, I conclude that private parties will do well to give them a wide berth. Besides the certain worthlessness of most varieties so far as tested, it would be certain death to any one who would attempt to call one of them by its original Russian name. Just imagine one of our common every-day horticulturists asking one of his evening callers if he would indulge in another Naslerdniknikolaiallksandwitchostrokasdrakayayanovdaskoesteklranka apple. Then think of the dead and dying that would be scattered over such a battle field of nameless names and let us be exceedingly careful how we introduce such things into a free and enlightened country. I have only to add, that to write upon a subject of such vast importance with so little knowledge to bring to bear upon it is a task of no mean proportions and I fear that the foundation of my constitution will be forever shattered by battling with it, and the only consolation to be gained from this committee at this time is the fact that our friend Webster, who is neither a small or a new thing, either as a specimen of nature's handiwork, or in experience in the cultivation of new fruits, will give the Society something in the line of information upon this subject which will redeem the reputation of this committee from everlasting disgrace.

The Awarding Committee, Class III., presented the following

REPORT.

Your Committee on Class III. — Plates — beg leave to make the following report : In passing upon the various entries made, we have endeavored to follow the instructions laid down in your printed rules.

The competition has been so sharp that we found the work more difficult than was anticipated. We cannot give our reason for the decision we have made in every instance, but, for illustration, we will give the following case :

We found from Central Illinois, for family use, the Northern Spy, Minkler, Rome Beauty, Jonathan, and Wythe. We awarded the first premium to the Jonathan, for the reason that the fruit is higher in quality, and the tree is better adapted to the various localities than the other varieties. We did not deem the Northern Spy worthy of even a third premium, for the reason that in this short life and fast age it is too slow in coming into bearing.

I am glad to be able to report that of all the varieties passed on, I found but two incorrectly named.

I can not close this report without saying that the collection of fruit which is here on exhibition is a magnificent one, and it seems to me that if those chronic grumblers, who have been making such doleful lamentations over the failure of fruit for the past few years, could see these tables groaning under their load of as fine fruit as ever grew, they would cease their grumbling, and take new courage to go on with their horticultural work.

Respectfully submitted,

G. B. Brackett, *Committee.*

On motion President Dunlap named the following gentlemen as a special committee to examine and report on the fine exhibit of the Illinois Experiment Station : W. M. Samuels, of Clinton, Ky.; R. B. Leeper, of Paducah, Ky., and James Freze of Coatsburg, Illinois.

Adjourned.

THURSDAY MORNING.

The session was opened with prayer by the Rev. Dr. Abbott, of the Baptist Church.

REPORT OF STANDING COMMITTEE ON NEW FRUITS.

BY J. WEBSTER, CENTRALIA.

Mr. President, Ladies and Gentlemen of the Illinois State Horticultural Society:

The experience of the past year, like many that have preceded it, has taught us some valuable lessons which are gentle reminders of how little we really know about the art of Horticulture. I fear what I may be able to say upon the subject assigned me, will not

prove new or interesting. New fruits! How many horticulturists have gone down into the bottom of their pockets the past season, after hearing some college-trained gentlemen, sent out by Eastern firms, tell the bright side of his piece in regard to something new he is offering,— to find in a few years hence, he is a victim of misplaced confidence.

In the wide range of pleasure, labor and cares connected with pomology, nothing is more truly fascinating and highly interesting to the lover of horticultural pursuits, than the production of new varieties. It is a lottery with very many blanks and occasionally a prize. In the anticipation of this prize, the one pomologist pushes his experiments with an enobling pleasurable pride, finding lots of disappointments and a vast field of unexhausted pleasure, not to be found in other pursuits. Our long list of varieties which are so bewildering to the beginner, were all new varieties once, new from Nature's great store-house. They are not altogether natural forms, but the artificial productions of culture, assisted by man's determined effort to improve; and, for all this tendency to improve, there are apparently stronger tendencies to return to a natural or wild state. There are more or less of popular errors prevailing in regard to varieties,— one is, that when a good variety has originated from seed and been introduced to the public, it may be continued forever.

Judging from my own standpoint of experience and observation, this can not be so. I think the facts will bear us out that all varieties of fruits are of limited duration, depending on favorable or unfavorable conditions of climate, soil, modes of propagating, and innumerable other conditions of cultivation, plant food and surroundings.

New Fruits — To commence at the beginning, strawberries, the first fruit to ripen in the early spring, and, to very many of us, second to none in commercial importance. Of recent introductions, fruited the second time, Bubach does not meet our expectation in our end of the State. A large berry of medium quality, very soft, poor shipper. Plants do not stand our midsummer sun, the yield is light when compared with the kinds we grow. The same may be said of the Jessie, except that it is a more vigorous grower and plant-maker, in our soil, than the former. The Hoffman, from South Carolina, a staminate variety, good fertilizer for Crescent and Warfield, is a good, vigorous grower, makes lots of fruit of medium size and fair shipping quality, is a good plant maker and promises well for our latitude. The Burt Seedling, Itasca, Logan, Pearl and Cloud Seedling we have not fruited enough to pass judgment. The Pearl, however, is large and firm and promises well on one year's trial as a shipping berry. Warfield No. 2 holds its position as the best market strawberry in Southern Illinois, old or new, of good average size all

through the season, firm shipper, of good quality and fine appearance in box. It has astonished all that have seen it; from every place that it has appeared in market comes unsolicited plaudits of its beautiful, solid appearance and fine selling qualities, after being shipped hundreds of miles. The yield per acre, under ordinary matted row culture, is immense. second to nothing grown here, but a long way in the lead. It is destined to give strawberry growing a great impetus in Egypt.

Raspberries — Of recent introductions we have nothing to report. Red Cuthbert and Brandywine are considered the best with us. Of black caps, Tyler, Souhegan, Ohio Black and Gregg. Shaffer's Collossal takes the lead as a very large berry for home use and home market, but is a very poor shipper.

Gooseberries — The Downing, Mt. Seedling and Houghton are grown, and for market in order named. Triumph, a new American gooseberry, from Pennsylvania, is a promising rival of the Downing, much larger. This year they bore a nice crop of large, handsome berries, free from mildew. The Industry has, with us, not proved profitable, like all English varieties, it has fallen a victim to mildew.

Grapes — Niagara has proven hardy and bids fair to be a rival of Concord, it was not entirely free from rot this year. We only know of three kinds that are, viz: Perkins, Norton's Virginia Seedling and Cynthiana. Empire State has been fruited by some amatuers, and is highly esteemed. Brighton, Noah, Lindley and Worden are successfully grown in Clinton county by a few Germans, who bag them early.

Blackberries — Early Harvest stands first as an early berry, ripening before the Black Raspberries are done; of medium size and of fair quality. Western Triumph and Stone's Hardy fruited by us two years, we like them better than Snyder for this far south. We can see no difference in the Erie and Lawton, one year's fruiting.

Currants — The Victoria and Red Dutch take the lead here as red currants. The Fays, like the Cherry, will never be profitably grown this far south, with us being almost the southern limit of currant growing.

Pears — Keiffer and LaConte produced heavy crops this year on four and five-year old trees. The LaConte is an enormous bearer; quality third rate. Jefferson and Early Harvest are one and same pear to me; early and of third quality. Lanson we have not fruited.

Quinces — Meches' Prolific is a vigorous, good grower. Tree hardier than Reas' Mammoth or Orange quince; bore fruit this year very similar in size and quality to the Orange quince.

Plums — We fruited several new American kinds,— the Decariduc, a very fine, large round plum, pretty as a Nectarine, dark mottled and marbled, small round stone, quality good; ripens July 20th. Parson plum, from St. Louis County, Mo., a valuable, hand-

some plum, of good size and quality ; ripens fifteen days later than Wild Goose, enormous bearer. Morman, ripens late in August, a very pretty round plum, long stem, size of a large cherry, small stone, for domestic purposes valuable; quality, No. 1. Golden Beauty, ripens September 1st to 10th, it is an enormous bearer, fruit actually hiding foliage, beautiful golden yellow, clear skin, of good medium size and quality. The Round plum was sent me by Mr. Spears, of Cedar Rapids, Iowa ; it is a very fine native plum, second to none of its class when canned, valuable for domestic purposes.

Cherries — The Montmorency takes the lead for a valuable cherry of the Morrello class, for the last few weeks of June, either for a home or market cherry. We discovered a valuable late cherry growing in Union and Pulaski counties ; large, long stem, with a prominent suture on one side, black when ripe, dark flesh, of fine appearance, sour and very astringent, hangs on until middle of July ; is probably the Elkhorn of eastern catalogues.

Apples — We fruited Grand Sultan and Tetofsky again this year. The Grand Sultan is an enormous bearer, ripens July 15th : of medium to large size, beautiful clear skin, almost white, very smooth and handsome, very much like Yellow Transparent in size and quality. Black Twig, from Tennessee, promises to be good for Southern Illinois. We have in the south end of the state a number of apples, not generally known, that bid fair to be successful rivals of some of the older varieties. Among them may be named Johnson County Red, Red Winter Pippin, Sparks, Terril, Picket, Ingram, Shackleford, York Imperial. Indian is a fine growing orchard tree. The present season has been a very difficult one to save specimens of new apples, the excessive rains of August caused a great amount of rot in fruit, so that our promising supply of specimens of new varieties disappeared before time for ripening.

Peaches — Of new varieties coming under my own observation, the Thurber is hardy, very large free stone of fine appearance ; A No. 1 market peach. Elberta, a large oblong peach, with a rich yellowish cast of skin, blush on sunny side, of good quality; a very fine valuable market peach. The Ede originated with Captain Ede, of Cobden, Illinois ; large free stone of delicious quality, a valuable August market peach ; this is one of the most delicious peaches I have ever tasted. Freeman's Late originated with H. C. Freeman, of Alto Pass; is a fine, valuable market peach for last week in August, a good shipper of the Smock type, but by no means a Smock ; it is of fine appearance and quality and very satisfactory.

Mr. Coe — We have a collection of seedlings and new varieties of fruit on exhibition from our own and neighboring states, and some of them are very promising. It seems to me that it is the

duty of our Experiment Station to test these promising fruits, not only at the Station, but to procure scions and have them tested by practical men in different portions of the State.

The Awarding Committee to whom was referred Class II, New Fruits, made the the following

REPORT:

Your committee to whom was referred Class II, New Fruits, beg leave to report:

In No. 7, *Best Plate Seedling, Good Enough to be Recommended*, There were seventeen entries from Central and Southern Illinois, Kentucky, Arkansas and Missouri, three plates of which, under the rules, were withdrawn. It was with care that I tested all of this fruit; I took in consideration size, color, smoothness, quality, etc.; with scarcely an exception all of this fruit was good enough to be recommended.

I have awarded the premiums as follows:

First premium to J. F. Babcock, Little Rock, Ark.: variety, Coffelt. The report accompanying this entry says, seedlings from Ben Davis, upright grower, good bearer and hardy; the quality, No. 1, mild, sub-acid. The second premium was awarded to Mr. Samuels, Clinton, Ky.; variety, Glendale; quality, good, mild, sub-acid; tree, good grower, heavy foliage, hardy. The third premium was awarded to J. T. Johnson, Warsaw, Ill; apple medium in size; color, red; quality, good, sub-acid; originated in Hancock county, Ill.

There are many other entries which are worthy of further trial, and I recommend that the descriptions which accompany them be published in the proceedings.

In No. 8, *Best Plate New Variety, Good Enough to be Recommended.*—There are fifteen entries.

I awarded the premiums as follows:

First premium to E. A. Riehl, Alton, Ill.; variety, Nero. The apple is of good size; color, red; quality, good. Second premium to Frank Harlan, Canton, Mo.: variety, Shackleford; specimen, large, smooth, good color; quality, No. 2; probably originated from seed of Ben Davis. Third premium to W. R. Crain; variety, Pickett; size, large, dull red in color; quality, No. 2.

Nearly every other plate is worthy of recommendation for further trial.

I would recommend to this Society that they devise some means by which these fruits can be tried in Illinois. There are apples on

exhibition from Kentucky, Arkansas and Missouri that are the equal, if not superior, to the varieties grown in Illinois.

I also recommend that the description which accompany the entries in this class be published, and the owners of this fruit be requested to continue their growth for further trial.

Respectfully submitted,

C. B. Rockwell, *Committee.*

Mr. Pearson — I think it would be a good plan for committees, in describing quality of fruit, to confine themselves to the rules of the American Pomological Society. I think they use the terms, good, very good, best.

Mr. Patterson — I am not quite satisfied with the Shackleford, as think it may be a little tender. It is not much better in quality than the Ben Davis of which it is probably a seedling.

REPORT OF AWARDING COMMITTEE CLASS V—VEGETABLES

Best Half-Peck Early Potatoes — First premium, J. S. Browne, Alton; second, F. W. Poscharsky, Princeton.

Best Half-Peck Potatoes for Winter and Spring — First premium, J. S. Browne, Alton; second, J. Webster, Centralia.

Best Half-Peck Onions from Seed — First premium, F. W. Poscharsky, Princeton; second, C. B. Rockwell, Hamilton.

Best Half Peck Onions Grown from Sets — First premium, C. B. Rockwell, Hamilton.

Best Three Heads of Celery — First premium, F. W. Poscharsky, Princeton; second, John Kramer, Brighton.

Best Half Peck Sweet Potatoes — First premium, J. S. Browne, Alton; second, E. A. Riehl, Alton.

Best Half Peck Turnips — First premium, E. A. Riehl, Alton; second, J. S. Browne, Alton.

Best Half Peck Beets — First premium, Edward Sims, Alton.

Best Half Peck Parsnips — First premium, E. A. Riehl, Alton; second, Edward Sims, Alton.

Best Half Peck Carrots — First premium, J. Webster, Centralia; second, J. S. Browne, Alton.

Best Winter Squash — First premium, J. S. Browne, Alton.

Best Head Cabbage — First premium, E. A. Riehl, Alton.

Best Sample Salsify — First premium, E. A. Riehl, Alton; second, J. S. Browne, Alton.

Best Sample Winter Radish — First premium, J. Webster, Centralia; second, Edward Sims, Alton.

The undersigned committee to report upon vegetables now on exhibition, respectfully submits that samples of watermelons, two

varieties, and a sample of "Upland Cress" were kindly sent by Mr. Hugo Beyer, of New London, Iowa, for examination and exhibition. The melons appear to be substantially as set forth in his statement, — very solid, very small seeds, very thin rind. The defects are manifest: they are small, and would, in our market, be neglected on this account. They may be valuable for growers in more northern districts. They have kept well, and are claimed to be very hardy.

The "Upland Cress" appears to have the good qualities of the old-established water cress, with the advantage of growing in dry places. To those who, in our dry climate, have sighed for their old friend, this promises to be a grateful substitute. We also wish to call attention to the fine display of celery, grown by Mr Kramer, of Brighton, comprising more varieties than we have ever had on exhibition before, and very well grown and well bleached.

JOHN M. PEARSON, *Committee.*

Your committee appointed to award premiums on collections of fall and winter apples from Northern Illinois, would report as follows:

Best Five Varieties Winter Apples from Northern Illinois — First premium, S. G. Minkler, Oswego — *varieties:* Minkler, Jonathan, Willow, Grimes' Golden, Ben Davis; Second premium, L. R. Bryant, Princeton — *varieties:* Willow, Stark, Jonathan, Wagoner and Ben Davis.

Best Three Varieties Fall Apples from Northern Illinois — First premium, L. R. Bryant, Princeton — *varieties:* Wealthy, Fameuse, Fulton; Second premium, S. G. Minkler, Oswego — *varieties:* Maiden's Blush, Fameuse, Cayuga Red Streak.

HENRY MORTIMER,
Committee.

The committee for Central Illinois reported the following awards:

Best Five Varieties Winter Apples from Central Illinois — First premium, James T. Johnson, Warsaw — *varieties:* Ben Davis, Willow, Jonathan, Wine Sap, Grimes' Golden; Second premium, A. C. Hammond, Warsaw — *varieties:* Ben Davis, Willow, Wythe, Red Canada, Hubbardston's Nonesuch; Third premium, C. B. Rockwell, Hamilton — *varieties:* Ben Davis, Smith's Cider, Rome Beauty, Red Canada, Cayuga Red Streak.

Best Three Varieties of Fall Apples from Central Illinois — First premium, James T. Johnson, Warsaw — *varieties:* Maiden's Blush, Fulton, Bailey Sweet; Second premium, A. C. Hammond, Warsaw — *varieties:* Maiden's Blush, Fameuse, Porter; Third premium, C. B. Rockwell, Hamilton — *varieties:* Fameuse, Jonathan, Domine.

BENJ. BUCKMAN, *Committee.*

The committee from Southern Illinois made the following awards:

Best Five Varieties Winter Apples from Southern Illinois — First premium, J. Webster & Son, Centralia — *varieties:* Minkler, Ben Davis, Rome Beauty, Wine Sap, Rhenish May; Second premium, W. R. Crain, Villa Ridge — *varieties:* Ben Davis, Rome Beauty, Wine Sap, Pryor's Red, Fink; Third premium, E. A. Riehl, Alton — *varieties:* Ben Davis, Wine Sap, Smith's Cider, Willow and Pennock.

Best Three Varieties Fall Apples from Southern Illinois — First premium, Jacob Auer, Deer Plains — *varieties:* Jonathan, Rome Beauty, Stark; Second premium, E. A. Riehl, Alton — *varieties:* Rome Beauty, Hubbardston's Nonesuch, Rambo; Third premium, J. Webster & Son, Centralia — *varieties:* Jonathan, Grimes' Golden, Yellow Bellflower.

Your committee, in making the awards, took in consideration the desirableness of the fruit for market, rather than the appearance of the specimens.

A. Cope, *Committee.*

REPORT OF COMMITTEE ON CLASS VI — CANNED FRUITS.

In the exhibition of canned fruits I find eight entries to which premiums were awarded as follows:

Best Jar Strawberries: — First premium, C. B. Rockwell, Hamilton.

Best Jar Red Raspberries: — First premium, C. B. Rockwell, Hamilton; second premium, C. B. Rockwell, Hamilton.

Best Jar Black Raspberries: — First premium, C. B. Rockwell, Hamilton.

Best Jar Cherries: — First premium, Mrs. C. E. Collins, Alton.

Best Jar Plums: — First premium, Mrs. C. E. Collins, Alton: second premium, C. B. Rockwell, Hamilton.

Best Jar Blackberries: — First premium, C. B. Rockwell, Hamilton.

Best Jar Gooseberries: — First premium, Mrs. C. E. Collins, Alton.

Lyman Hall, *Committee.*

REPORT OF AWARDING COMMITTEE.— CLASS IV, MISCELLANEOUS.

Best Plate of Any and All Valuable Varieties of Pears — First premium, Winter Nellis, H. G. McPike, Alton; Second premium, Howell, A. C. Hammond, Warsaw; Third premium, Easter Beurre, S. F. Conner, Alton.

Best Display of Horticultural Products — First premium, J. S. Browne, Alton.

Best Display of Evaporated or Dried Fruit — First premium, C. B. Rockwell, Hamilton; second premium, J. S. Browne, Alton.

REPORT OF AWARDING COMMITTEE ON SPECIAL PREMIUMS.

Best Display of Apples Grown in Missouri, Arkansas, Kentucky, or Tennessee — First premium, W. M. Samuels & Co. Clinton, Kentucky; second premium, E. F. Babcock, Little Rock, Arkansas.

Best Display of New Apples (competition open to the world) — First premium, E. F. Babcock, Little Rock, Arkansas; second premium, W. M. Samuels, Clinton, Kentucky.

Best Display of Apples Grown in Southern Illinois — First premium, W. R. Crain, Villa Ridge.

C. N. Dennis,
Arthur Bryant,
Frank Cadwell,
Committee.

PRUNING PEACH TREES.

BY E. A. RIEHL, ALTON.

Training and Pruning the Peach — Before entering upon the subject of pruning, I wish to say something about the training of the peach tree,—a subject of very great importance and one almost entirely overlooked. Whether the heads should be high or low every one must determine for himself. I prefer a moderately high head, and like to start the first limbs at a height of about four and a half to five feet from the ground. I want the heads high enough to be able to run a Hull curculio catcher. I want not over four limbs to start from the main stem, and they should be started at different heights, and trained so as to branch off from the stem nearly square. The reason for this is, that the peach wood does not unite in a fork like other trees, and this is one great cause of peach trees breaking down when loaded with fruit.

To get the limbs to branch off at an obtuse angle, it is necessary to train them when quite young. This I do by pruning where possible, by bending the limb down, and putting a stick, weed, or corn stalk between the limb and stem above, so as to hold the limb in the desired position for a month or more during the growing season, or by tying the limb down to the body with a string tied to the limb, from one to several feet from the stem, according to circumstances, and to a four-penny nail driven into the tree near the base. The reason for starting the limbs at different heights is, that if started together they form acute angles between, and not uniting, cause a dead and weak spot in the tree. The main limbs are allowed to branch, some at a distance from the stem, but never so much as to cause the small twigs in the centre of the tree to be killed out by the shade.

Pruning—The peach does not fruit on spurs like most other fruit trees, but on wood of the previous years' growth, therefore needs different treatment in pruning, and a great deal more of it than any other fruit that we grow, but usually gets very much less. Fruiting only on the previous years' growth, it becomes necessary to so prune as to retain the small twigs in the center of the tree, which, by the ordinary methods of training and pruning, or non-pruning, are smothered out by the excessive growth at the extremities of the limbs, and the fruit is all borne on the ends of the limbs where the leverage is so great as to break down the trees, and is hard to get at to be picked. There should be no more limbs allowed to grow than will permit the light of the sun to reach all the fruit on the tree.

The essential point in the management of peach trees is to retain the small twigs all along the limbs clear back to the stems. This is accomplished by leaving the head open as above indicated, and by cutting back at least a part of the previous season's growth to start stubs of an inch in length, so as to induce a new growth of twigs. If the first buds are all killed, it is best to cut all of the previous season's growth off in this manner. If the trees fruit, only a part need be cut back in this manner, always cutting out the largest and leaving the smaller ones to fruit. These fruiting twigs should not be nearer together than ten inches.

By pruning in this manner the tree is able to bear a heavier crop of fruit without breaking down and the fruit will be larger and better colored than it is usually grown. Each peach, having plenty room, sunlight and leaves to nourish it, will be like the ones found in the tops as ordinarily treated.

The following varieties proved hardy and bore good crops for me in 1888: Amelia, L. E. York, Family Favorite, Gen. Lee, Thurber, Chinese Cling, Vangant Cling, Shiple's Late Red, Great Western, Park's Late, Sack's Cling and Smock.

Tender varieties: Mountain Rose, Reeve's Favorite, Brandywine, Natnicoke, Crawford's Early and Late, Wheatland.

Mr. Goodrich — Have you a certain system that you follow up year after year in pruning?

Mr. Riehl — Yes; if you neglect to trim annually, you will have long rambling shoots without any laterals to bear fruit.

Mr. Webster — I find that my northern customers think they could run a peach orchard much better than we do, but I think one or two year's experience would cure them of that notion. The tree is liable to split all to pieces under the load of fruit. It is impossible to get hands with enough intelligence to properly gather the

fruit, and if the weather is warm and wet they will spoil before they can be put on the market. Our customers send us word to-day that they are too hard and to-morrow that they are too soft, and again that they are too small.

Mr. Pearson — Prior to 1882 we had seven crops in twenty years, but the past seven years has broken the record. When we get one crop in three years we are doing well. If we had annual crops everybody would go to raising peaches and the markets would be glutted. I find that it is about impossible to get a good peach two hundred miles from its home. I once saw some Alton peaches in Chicago and thought they would certainly be good, but was sadly disappointed.

Mr. Riehl — Peach trees make no spurs but bear on the twigs. Cutting back increases the bearing wood, and those who keep their trees in proper shape will find it very profitable to thin the fruit. The expense is much less than is generally supposed.

REPORT OF COMMITTEE ON RASPBERRIES AND BLACKBERRIES.

BY H. K. VICKROY, NORMAL.

Raspberries and blackberries, the past season, have generally produced fair crops, for which we have received medium prices. In our immediate vicinity, the season has been very favorable, having frequent rains at the right time, for ripening a good crop of berries, and making and maturing a fine lot of canes for another season's fruiting.

The varieties of raspberries for profitable marketing can be counted on the fingers of one hand. For early, Tyler and Souhegan, and Ohio for late, and in well-sheltered locations, I might add Gregg. There is but but little difference between the Tyler and Souhegan; if any, it is in favor of the Tyler. The Ohio is a very strong grower and very hardy; fruit not so large as Gregg, but of better quality. The Turner and Cuthbert are the leading red varieties. The Shaffer's Colossal is growing in favor with the consumer. When the Shaffer was first put upon the market, it was nearly impossible to sell it on account of its color; since people have become acquainted with it, there is quite a demand for it. It is a splendid berry to can.

I have fruited five varieties of blackberries this season: Snyder, Stone's Hardy, Barnard, Taylor and Agawam. They stand in value in the order named. The Snyder and Stone's Hardy are more hardy

than the others. In quality, some prefer Barnard and Taylor, but for profit, Snyder and Stone's Hardy heads the list. In the northern half of our State there are one hundred acres of Snyder's grown for every acre of all other varieties.

The growing of raspberries and blackberries for market is not as remunerative as formerly, still they give a fair profit, if properly taken care of. The growing shoots should be tipped when two feet high; the laterals should not be tipped unless very strong, and then only about eight inches from the main shoot. Remember this tipping should be simply cutting or pinching off an inch or less of the top; don't let the shoot grow three or four feet and then cut it back to two feet. All the weak shoots should be cut out; if left to grow, they should not be tipped.

The whole secret of success, if there is any — is to have good, well-matured plants to begin with, of the approved varieties, well planted on thoroughly prepared land, liberal feeding with good barnyard manure, frequent cultivation through the entire growing season, being careful to not cultivate, after the first season, over two inches deep, and always as soon after a rain as the ground will do to work, to prevent a crust forming, careful gathering and packing the fruit in neat and well-made packages and properly distributed to the best markets.

Mr. Jackson — I think three feet, as recommended in the report, too high to trim ; I think two feet preferable.

Mr. Vanderburg — Do you trim all blackberries alike?

Answer — I do not grow anything but Snyder to any extent, and have not, therefore, had much experience with other varieties.

Mr. Bryant — We often get our plants so high that the sun cannot reach the centre of them, and as a consequence we get but little good fruit.

DISTRIBUTION OF FRUIT.

BY T. E. GOODRICH, COBDEN.

The price of fruit in the Chicago market is sometimes very low. Fifty car loads of strawberries in a single day ; twenty-seven of tomatoes, or 65,000 packages of Michigan peaches in an equal length of time, was enough to gratify the heart of a philanthropist by bringing the price of fruit within the reach of the worthy poor. But what of the worthy men who grew it? Where are the rewards of their labor when tomatoes, that cost fourteen cents a box, sell for ten? or apples, after picking and barreling, sell for one dollar?

These are not the prices that make plethoric pocket books, or buy the necessaries of life. It is sometimes said that good fruit always finds ready sale and a good price, but there are times when this oft-repeated statement is far from correct. Times when fruit, mainly of good quality, comes pouring on the market in such overwhelming quantities as to paralyze trade. Times when the supply each day so far exceeds the demand, as to make an impossibility sales at any price. You say over-production.

But is it always over-production? Is it a settled fact that there is more fruit grown in Illinois than consumers for it in the State? If not, then this State does not over-produce. Is it not probable that there are homes where it would all be made very welcome and paid for at fair price, if it could be taken to them?

The story of the priest, who found a boy crying because a new comer at home would reduce the per capita distribution of rations, perhaps illustrates the situation. "They hadn't food enough before," he said, "and what would they do, now, with another mouth to fill?" The priestly injunction was to rejoice; that the Lord didn't send any more mouths in the world than He did bread to fill. "But," retorted the boy, "He has sent all mouths to our house and all the bread to yours."

The boy was making a plea for a better distribution. Now the mouths are not all in Chicago; they are scattered all over the State, and when we glut the Chicago market, are we not sending the bread to the wrong house?

There are towns in Illinois where a peach or a pear is a rare sight. If these towns should order even a very moderate supply of fruit, how long would the glut in Chicago be likely to last?

Traveling by rail in the central and northern part of the State, one seldom sees a peach tree for hours at a time, and often not a fruit tree of any kind. There is not a town in the State not amply supplied with pipes and tobacco, and surely fruit is not less healthful.

It is true fruit is perishable and hard to transport without injury, but so is a sack of flour, and a box of peaches or barrel of apples can follow a flour sack. It would not be more difficult for these towns to place themselves in communication with the sources of supply and secure a regular and sufficient quantity than of tea, coffee or coal oil.

Distribution of fruit cannot be accomplished, unless done cheaply. The cheapest is by car lots; car lots can not be sent to small towns without greatly exceeding the demand. Small cities must receive the cars and divide them among the adjacent towns. Here comes another difficulty. A mouth and digestive organs are not of necessity a good fruit market. They must be accompanied by a purse long enough to pay a fair price. Fruit cannot be grown and

shipped to a distant market with much profit, if sold within the reach of poor men.

I cannot grow a choice quality of peaches without a choice price; a price that can only be paid by a rich man, and that class of rich men are only found in large cities. If the small places would take a lower grade of fruit at a medium price it would greatly simplify matters.

Trade is secured in dry goods and groceries by traveling men and the goods follow. But dry goods can be sold all the year round, strawberries can not; yet, if we could adopt some modification of the system, it would greatly relieve our crowded markets, and place the fruit in the hands of consumers quicker and in better condition.

Large brewing firms load their kegs of beer in their own refrigerator cars, the envoy in charge travels over a certain route, meeting his customers at the depots, who buy as many kegs as their business requires. Possibly fruit can be shipped in the same way. Quite as satisfactory fruit distribution as we have in Southern Illinois, is when carloads of apples are sent to Iowa and Minnesota, and carloads of Irish potatoes received in return. At Cobden we have discussed many plans, and tried many experiments, both collectively and individually, but none have been entirely satisfactory.

By the aid of fast and slow freight, fruit trains, express and refrigerator cars, we reach Omaha, St. Paul, Chicago, Detroit, Buffalo, and sometimes Boston and New York. We scatter a large amount of fruit, but have not reached all the towns in the State. Many buyers come to us from other points, and deal very satisfactorily with our growers, but enough do not come to entirely relieve us.

The subject is one of vast importance. Not more than two-thirds of the fruit markets of Illinois are adequately supplied; and we will obtain better prices and more satisfactory results when we have a more complete system of fruit distribution.

REPORT OF AD-INTERIM COMMITTEE FOR SOUTHERN ILLINOIS.

BY J. S. BROWNE, ALTON.

Mr. President: Owing to the rainy weather and bad roads at the time I went on the *ad-interim* trip through Southern Illinois, which was the week following November 17th, I was not able to get over as much ground as I should have liked to, and, therefore, will have to make this report a short one. The past season's grape crop at Villa Ridge was very fine, almost entirely free from rot and mildew. One of the largest growers said that he could have carried all the rotten grapes on his place in his hat. Varieties that have never done anything before were perfect this year. Something over four

hundred tons were shipped from this point last season, the bulk of which went to Minneapolis, at the very low rate of two and a-half cents per ten-pound basket, freight, and sold for satisfactory prices. Large crops and good prices have encouraged growers to increase their vineyards, and at least one hundred acres will be planted in the coming season.

The peach crop in the spring promised to be exceptionally large, but owing to the very wet weather after the earlier varieties were picked, the medium and later kinds were almost an entire failure, fully three-quarters rotted on the trees. This will apply to the whole of Southern Illinois as well as Villa Ridge.

Mr. Geo. W. Endicott claims the Elberta and Ede to be the best of the newer varieties of peaches. The Elberta did not crack with wet weather and is very productive, very hardy, and yellow in color, ripens with or just before Old Mixon. The only fault so far developed is that it is a slow, ragged grower. Of the Ede he says that it is the very best in quality, is hardy, but requires thinning to make it large in size. He has tried a large number of plums, among them has found the Shoulding one of the best, it partakes more of the nature of the European plum than any of the natives. The Botan is the only one of the Japanese varieties that have proved of any value, it is hardy, good grower and early bearer of fine quality and large size.

He has tried spraying and is well pleased with it. When he began spraying, his orchard was full of canker worms, tent caterpillers and any quantity of codling moth. In twelve hours after the first spraying the ground was covered with worms, caterpillars and moths; could find none on the trees. He sprayed a second time eight days after and has gathered the most perfect fruit this year his orchard has ever produced. He also tried spraying his peach trees for the curculio, used two ounces of Paris Green to a fifty gallon barrel of water, but this burnt the foliage so badly that a large number of leaves dropped. He afterwards reduced the poison to one and one-half ounces to fifty gallons of water but this was not altogether satisfactory and was afraid to follow it up. During the earlier part of the season, and for a time after spraying, he found no circulio's nor any signs of them, but later they became so numerous that he found it neccessary to run his circulio catcher as usual. He thinks they came in from his neighbors that did not spray.

Of the newer varieties of grapes, he is so well pleased with Brighton and Empire State that he is propagating and planting them as fast as he can get the wood. The Villa Ridge Shipping Association is proving itself to be of great benefit to its members. Next season it will ship the berry crop exclusively in refrigerator cars. The Illinois Central Railroad will build 100 cars of a pattern

to be selected by the growers, this winter for their use. By using these cars and shipping by freight instead of fruit train, the freight to Minneapolis will be less than ten cents per twenty-four quart crates. This includes cost of ice. Berries are cooled down to 50 degrees, before putting into cars, in a cooler owned by the Association which has a capacity of two cars, and is so arranged that in loading or receiving a car load the temperature will not rise more than two degrees.

While peaches, grapes and strawberries take the lead at Villa Ridge, vegetables seem to be the principal crop at Cobden, the quantity of tomatoes, sweet potatoes, pieplant and other vegetables grown here is enormous, and when you take into consideration the difficulty of getting manure, which all comes from St. Louis and Chicago, you are still more surprised; but when you are told that they are content to pay $12 per car, freight, on bulky barnyard manure, then haul from one to four miles over the worst kind of roads, instead of using artificial fertilizers, you will have another surprise. The sweet potato crop is the largest ever gathered, the acreage was double any previous year, and the yield per acre as large or larger. Over 200,000 bushels are stored at this point awaiting shipment. Thirteen additional storage houses were built the past season, making forty in all, besides a number of cellars that have been fitted for this purpose.

The strawberry crop for Southern Illinois for the season of '89 promises to be about 60 per cent. of what it was in '86, the last and full crop. The acreage planted last spring was small, but the plantations, owing to the wet fall, never were in finer condition. The good prices obtained for berries for the last two years have so encouraged growers that the planting next spring will be so excessive that the prices obtained for them, in '90, is bound to be below the cost of production.

In the neighborhood of Centralia, the Warfield will largely take the place of the Crescent,— it is a better grower, better shipper and far superior in quality.

REPORT OF COMMITTEE ON EXPERIMENT STATIONS.

Your committee beg leave to report as follows:

We are well pleased with the establishment and present management of the station at Champaign, so far as we have become acquainted with the same.

There is much work in the matter of experiments that can be done at Champaign, that will benefit the whole State, and to such work it should confine itself at present. But there are other lines of experiment that are of more local application, and if undertaken at Champaign, will be of benefit for that locality or section only.

We would, therefore, recommend the establishment of sub-stations in other parts of the State, at as early a date as practicable, for the carrying on of such experiments as are of more local application, as the testing of varieties of plants and trees, etc.

All of which is respectfully submitted.

HENRY MORTIMER,
C. N. DENNIS,
E. A. RIEHL,
Committee.

Mr. Mortimer — I am glad that at last we have an experiment station, and believe that they are doing a good work. While we need this central station, we none the less need a number of sub-stations in different parts of the State to test the adaption of varieties to localities.

Mr. Pearson — I think the sub-stations, if ever established, will be of more value than the central station, but we have not the means to establish them, unless the legislature comes to our aid. I think the trustees are doing the best they can, but a corporation with only one dollar cannot be expected to appropriate two.

Mr. Dunlap — If this Society could commence in a small way, and get these sub-stations fairly under way, they could be enlarged as opportunity offered. I don't think this Society could do better than to appropriate one hundred dollars to each of the three horticultural districts, to aid in establishing stations of this kind.

Mr. Cope — I am convinced that the establishment of these sub-stations would greatly advance the interest of horticulture. I therefore move that this Society appropriate one hundred dollars for this purpose.

Referred to the Executive Board.

Mr. Pearson — I am sorry to see this motion prevail, as nothing can be accomplished by a spasmodic effort like this. To profit by this work we must have a well-defined plan, to be followed up year after year. Years ago Mr. Flagg inaugurated a work at the State University that promised to be of great value, but by his death it was all lost. They have undertaken a big job there now, and I think will find it difficult to test all the new varieties of grain, plants and fruits. I do not want it to go out that I am opposed to

Experiment Stations, for I long talked and labored for their establishment, but do not want to see them spend their energies on little things. Every man that has something new, that appears to be promising, can test it himself.

Mr. Dennis — That is just the trouble, these men often stumble upon something valuable, but are pretty sure to keep it to themselves; but if it was discovered at the Experiment Station, it would at once be made public.

Mr. Periam — The Station can experiment only in a general way and for the general good. The discussions here show that orchardists do not fully agree as to the time and method of applying arsenical poisons to fruit trees, or the proper strength of the solution. Such questions as this can and should be decided there.

Adjourned.

THURSDAY AFTERNOON.

At 1:30 P. M. the President called the house to order, and said the first business would be the

REPORT OF THE COMMITTEE ON NEEDED LEGISLATION.

BY C. N. DENNIS, HAMILTON.

Needed legislation is a large subject, as there are many wrongs to right before the millennium. Supposing that the object intended was horticultural legislation, I will say, first, we need a larger appropriation for the use of our Society, that we may publish more volumes of the "Transactions;" for it is a mortifying fact that we are probably not represented in this meeting by over forty counties out of the hundred in the State, neither do our publications practically reach a greater number. Next, in view of the rapid increase of insects, it is a very serious question, in my mind, if some legislation is not advisable in regard to their destruction. To illustrate: The State takes and destroys diseased animals afflicted with certain contagious diseases to prevent the spread among their healthy neighbors. Is it any more necessary among animals than trees and plants? Have I a right to propagate canker worms and codling moths to devastate my neighbor's orchards?

Another dread of the fruit grower is rambling stock, which is generally vicious or breechy, and constantly breaking into the enclosures of fruit growers and door yards, and in a few minutes destroying or marring the work of years. I would favor the enactment of a law prohibiting stock from running at large within the State. As the question of damages is entirely inadequate,— for who can estimate the value of a nice ornamental tree (evergreen or deciduous) standing upon the lawn, especially if it is a tree planted by, and, perhaps, the only legacy of, a departed friend.

Since coming here I have been told that one dealer in Chicago has brought five thousand five hundred barrels of apples from Canada without duty while potatoes pay fifteen cents per bushel.

Without making this a political subject, I will say I am in favor of protection for home products.

Mr. James T. Johnson read the following:

THE CATALPA AS A TIMBER TREE ON THE PRAIRIE.

BY L. C. FRANCIS, SPRINGFIELD.

My experience with the Catalpa Speciosa as a timber tree, is still very limited. In a former report I gave an account of my planting several groves with it. The first one was planted in an adjoining county (Macon) early in the spring of 1881. The trees came from Robt. Douglass, Waukegan. The spring was very wet and the trees did not get the cultivation they should have had. A majority of the trees have started once or twice from the ground, in consequence of the severe barking given by the rabbits; but few of these trees are large enough for posts.

A grove planted later in the season on my home farm has done better. I have, as yet, made no cuttings from this grove, though there are a great many trees large enough for posts. The next spring two more groves were planted. One of these has done finely, the other has been injured by fire from the railroad which runs by all the groves. The trees planted at home were from Dunreith, Indiana.

This fall I cut from the grove that had done so finely, some two hundred posts and about the same number of poles for spiking on a barbed wire fence. They take the place of a wire and make the fence conspicuous to stock. I have been somewhat disappointed in the growth of the catalpa. These trees had the same cultivation as my corn for three years, and yet there were none large enough for posts, till this fall, the sixth season's growth in the grove, and seventh from the seed. A grove planted near Atlanta, Logan county, by another person the same season as my last planting, and from the same ordering of trees, has done wonderfully; two years ago the trees appeared as large as those in my best grove this fall, with two years more of growth. These trees had no better cultivation, the soil is prairie,

with, I think more clay than my own. As to the durability of the wood I have but little experience. I have used it for bean poles for the last three years with no sign of decaying. Cuttings from the trees remain sound after having lain on the ground for three years.

The catalpa is remarkably free from insects. For the first two years there was an insect that ate the leaves, and some of the trees were checked in their growth; since then, nothing of the kind has troubled them. While in Southern Kansas last fall, my attention was called to the fact that while the soft maple and newly planted or unthrifty trees were much infested with the buprestus, the catalpa, of which a great many had been planted, was entirely free from them. I find it so with my own trees.

It takes patience to raise a grove of trees, but the farmer can not do a better thing for his farm than to raise a three or four acre grove of catalpas; once raised, the problem of cheap fencing is solved. With three barbed wires, a pole at the top and one or two at the bottom, if it is intended to turn hogs, and he will have a good lasting fence, with but little outlay of money and not a great deal of labor. As the trees get large enough for posts for sheds and other out-buildings, their lasting nature will make them invaluable for the purpose, as no framing or foundation will be needed.

Mr. McPike — I do not understand why a tree of this kind should be recommended when we have so many better ones. It is a poor grower and in my opinion worthless. Osage orange, maple, walnut and black locust are superior to it.

Mr. Hammond — I should regret to have it go out from this Society that we condemn the Catalpa Speciosa as a timber tree, when it is proving such a success wherever planted. It is a rapid grower, outstripping even the soft maple, and as a shade or ornamental tree, is excelled by few. Mr. McPike doubtless has in mind the tender catalpa which is comparatively a worthless tree.

Mr. Crain — In Southern Illinois, the catalpa is indigenous to the forests, and is a large and fine timber tree of the most durable quality.

Mr. Gillham — I know a pair of posts now forty years in the ground of this valuable wood, and, although very small in size, they are still sound. This tree is indorsed heartily by the best authorities in the land; plant them, and the sooner, the better.

Col. G. B. Brackett, Iowa — I have four distinct varieties of catalpa on my own grounds. In them all, there is a manifest difference. You have all heard of Mr. Suel Foster, of Muscatine, Iowa. When the Iowa State Agricultural rooms were being fitted up at Des Moines, he cut a very large Catalpa Speciosa, which he had grown on his own grounds, and sent it to Des Moines and had it sawed into boards and worked into the finish of the State Agricultural rooms, as a memento of State product; as a finishing lumber, it is remarkably handsome.

The Hon. J. M. Pearson now addressed the Society on "Ornamental Planting for Farmers," but as the copy has not been furnished the Secretary, only the following brief synopsis can be published :

Ornamental planting for farmers, means that kind of planting that will not make you one cent, and yet I hope to make it appear that often it is better for us to do this sort of work, that ornamental planting gives us that which dollars and cents can not buy, and the value of which can not be computed on a money basis. Then, for ornamental planting, what shall we begin with? Why, most certainly, in something which will give us quickest returns, in that which is of rapid growth and of early development. This, of course, will lead us to plant the very best selection in the line of annual flowers and plants. From this start we should elaborate in all known directions, culminating only when we have reached from the most tiny and delicate plant and flower to the most majestic trees of the forest.

Children should be taught the importance and methods of ornamental planting. Before I was eight years old I was interested in gardening and tree planting. The cost need not deter any one, as there is scarcely a community in Illinois where trees and plants and flowers can not be procured for digging.

An old gentleman who had handsomely ornamented his grounds, sold for a high price and built a modest house near by. When asked if he did not regret the change, he replied that he did not, for he could enjoy the trees he had planted fifty years ago and nurtured for almost a lifetime, just as well as before.

Mr. Hay — Tree planting is a hobby with me, and wherever I have room I plant another tree, and have sometimes been the victim of a slick-tongued tree agent. I once paid one of these fellows three dollars for a little switch about the size of my pencil, which, in the course of time, bloomed. It proved to be the "Magnolia Conspicua,"

and one of the most beautiful plants I ever saw. I think it much more handsome and desirable than the "Magnolia Accumenta." In front of my house is a magnificent elm that we all admire by the hour when we should be asleep. Insects seems to be injuring it, and I fear we shall lose it. How many tender memories cluster around that grand old tree! how many have extolled its beauty and rested beneath its shade, and if we lose it, how we shall feel a sense of personal loss as if a friend had been taken from us.

Mr. Pearson — On the grounds of the Monticello Seminary are a number of fine elms planted fifty years ago. They now seem to be failing, and if they die it will be an irreparable loss.

Mr. Hay — The Black Spruce has been largely planted in our country and makes a beautiful tree. It seems to endure our climate better than other evergreens.

Col. Brackett — It should not go on the record that the Black Spruce is a desirable tree, as it is generally a failure in the West. The Norway is often sold under this name, and is probably what Mr. Hay refers to.

Mr. Vanderburg — The Norway has longer cones than Black Spruce, which will readily distinguished them, yet they are often confounded.

Mr. Leeper, of the committee appointed to examine the fruit and other exhibits from the Illinois Experiment Station, in charge of G. W. McCleur, presented the following

REPORT

We, your committee appointed to examine the display of fruits on exhibition by the Experiment Station, at Champaign, beg leave to submit the following:

We find an attractive display of about one hundred and twenty-five varieties of apples, the trees having been secured from all parts of the United States where the apple is grown. The display indicates care, energy and industry on the part of those in charge of the station, and merits the encouragement of the fruit growers of the State and the considerate and fostering care of the legislature.

As the several varieties have been planted and cultivated under the names accompanying them when sent to the station, we often found the same apple passing under different names, and some misnamed. This we endeavored to correct, as far as we felt ourselves

competent. Many of the varieties, however, are entirely new to your committee, and must necessarily await further test of the station, or their culture be abandoned, as may be thought best.

We have decided to recommend, as worthy of trial by fruit growers, the following list: Winter Peach, Blue Pearmain, Gray Vanderver, Indiana Favorite, Higby's Sweet, Wright's Janet, Kentucky Cream, Utter's Red, Coon's Red.

We find several varieties so well known that we deem it unnecessary to mention them in this experimental list.

The display of corn and beans is large, and, from their appearance, we would judge many of them to be worthy a trial, but would not now venture to recommend any certain varieties.

W. M. Samuels, Clinton, Ky.
J. Byrd Leeper, Paducah, Ky.
J. Frieze, Coatsburg,
Committee.

The committee appointed to award premiums on grapes submitted the following

REPORT:

First premium, Benj. Buckman, Farmingdale — *variety*, Goethe; Second premium, H. G. McPike, Alton — *variety*, Virginia Seedling; Third premium, F. W. Poscharsky, Princeton — *variety*, Concord.

F. I. Mann, *Committee.*

REPORT OF COMMITTEE ON FINAL RESOLUTIONS.

Resolved, That the thanks of this Society are cordially tendered to the citizens of Alton for the hearty welcome they have given us, as well as their hospitality and kind attention. To the various railroads who have granted us the usual reduced rates. To the Hotel Madison for reduced rates and kind attention. And the Alton Southern Horticultural Society for the use of the commodious opera-house and the unusual effort they have made to insure us a pleasant visit and profitable meeting. To the press of Alton, for the favorable notices they have given us and the reports they have made of our proceedings. And last, but not least, to J. B. Leeper, of Massac county, for the barrel of magnificent Wine Sap apples which he presented to the Society.

Henry Augustine,
E. W. Graves,
Allen Cope,
Committee.

DEFERRED PAPERS.

The following papers were read by title and referred to the Secretary:

REPORT OF COMMITTEE ON FORESTRY.

BY G. W. MINIER, MINIER.

I dare not promise myself the pleasure of being at the meeting of the Illinois Horticultural Society, in Alton, on the 11th–13th instant, and therefore send you a few crude thoughts on Forestry. You know that my contemplated trip to Atlanta, Georgia, may prevent my being with you at Alton.

I attend many public meetings where men of thought, of philanthropy and self-sacrifice meet to take council, but none give me more pleasure than the Illinois State Horticultural Society. May I suggest to such a body of men a thought or two? Would it not be a step in the right direction to include in our work the idea of the conservation of our forests, and urging our people to plant parks and roadside trees?

Our railways should be invited and urged to plant forest trees along their tracks. These great commercial thoroughfares may thus be made both more useful and beautiful. By judicious planting and proper culture, these companies may materially aid in that indispensable article — the ties for their roads. These trees would likewise be a protection from winter storms and summer suns and a quietus to dust.

To every land owner a park will be a gem of beauty. Every farmer, however large or small his possessions, should know that a certain percentage of his land in timber will increase the value and usefulness of the rest of his farm. Not the adornment only, but the pleasure of the park, joy to his family, a resort for friends, and, in winter, a protection to domestic animals. His family physician will tell him that the sanitary effects of forest trees and foliage is most wholesome and invigorating.

I conclude by hoping that the Illinois State Horticultural Society, which has stood foremost in usefulness, will add another charm to her name by including among her other industries that of Forestry.

IMPRESSIONS OF SOUTHERN HORTICULTURE.

BY E. HOLLISTER, TAMPA, FLORIDA.

There is a charm in this section of the extreme South, which has and will always possess the horticulturist, let his habitat be what it may. The ever-green pine forests, the orange, the lemon and all the Citrus family tend to make this the perpetual summer land of America.

With all the new surroundings of the new world, what can prevent the staid and industrious horticulturist of the North becoming an enthusiast here? Surely he were less than human. There is a fellow-feeling in this question of horticulture which makes the world akin, a free-masonry patent to all, yet more to my knowledge as exacting a fee for the right.

My experience in Southern Horticulture is too brief to be thorough, yet at your request I give my impressions derived from such and observation. Why should not the peaches we many of us so well know, flourish and bear fruit here? Many and persistent efforts to bring them into bearing has uniformly resulted in failure, yet there are peaches here and I have plucked them from the tree in perfection. I know of no more beautiful sight than a Peento peach tree, laden with its peculiar shaped and highly colored fruit, which, when allowed to ripen on the tree is of delicious flavor; another peach, the Honey is also adapted to this climate, and as indicated by its name, is of unsurpassed excellence:

These two varieties seem almost indigenous, so well do they suit the soil and climate. Many seedlings and hybrids of these are being brought to notice and trial. What is known as the Chinese type of peaches, bring the best result, and with these a special treatment is necessary to bring fruit. The peach and plum has a tendency at the ending of the rainy season, say September, to cease its growth and shed its leaves by the first of November, then putting on a new growth and coming into blossom in that month and December. This habit should be broken, first by summer pruning of at least half the new growth, and also fertilizing the soil in time to prevent the tree going to rest so soon, and which would then bring the period of rest to nearly, or quite, December first. This is being tried, and in some instances my observation has confirmed it. The Persian strain of peaches have done nothing in this part of the state.

The Kelsey plum and some of the Japan persimmons have been tested here to a limited extent, with partial success. The fig grows with but little care and is being more thoroughly tested and planted; it promises well and no doubt will become a leading feature in Southern horticulture. The grape is more extensively planted and cultivated in the central and northern portions of the state. Among the

northern varieties best suited for this climate are Delaware, Ives, Cynthiana, Nortons and Niagara; the Scuppernong flourishes here to perfection. Apples are not at home here, yet I have to-day seen a tree in a yard in Tampa with green apples and with blossoms too. Watermelons grow to perfection if you will let them. I have seen vines two years old in blossom and fruiting. To succeed with musk melons is the exception, yet I have grown very fine ones.

As to pears, nothing but the LeConte has been tried to any extent, and good, fairly-grown trees are to be found. As yet I have seen no fruit so far south.

The strawberry is extensively planted, and more so in the northern part of the State, where easy access to the northern markets is to be had. The Neunan is the berry mostly planted; the Wilson and Sharpless do well. The Hoffman Seedling may be the coming berry for the south. The planting should be done in August and September if for the northern market; as late as December, if for local trade, may do. The hill, or stool, system is in vogue ; have never seen the matted row so far south.

Raspberries are a failure. You may raise a few to look at, but it does not pay, while blackberries are indigenous, and have been cultivated to some extent, and bid fair to bring some reward to the laborer. I am trying some of the northern varieties, but have no report to make. I am planting some natives from the woods, of which there appear to be varieties.

Trucking or gardening is being made quite an industry. Where good hummock land is used, and reasonable and favorable transportation available, it is fairly remunerative.

Cabbages, cauliflower, peas, onions, etc., are now growing and looking well, and some have set out tomatoes and egg plant for the spring crop, which the owners will harvest if Jack Frost doesn't.

The matter of transportation is the vital one among the horticulturists. When from one hundred and fifty to three hundred dollars is charged for a car-load of oranges, containing three hundred boxes, to the northern markets, the producer is ground exceedingly fine by the process ; yet he lives and moves and raises another crop. From New York to England and Germany, from thirty to forty cents per box ; from New York to Paris, eighty cents per box. Now, if such rates can be had and for such a distance, there is some hope for the orange grower, especially as the foreign markets are said to be reliable at paying prices. This transportation question assumes a magnitude beyond control. The railroad "trusts" are wise in their generation, who shall say them nay? The power to produce the golden fruit is literally being crushed out.

A PEN SKETCH OF CYRUS THOMAS, THIRD STATE ENTOMOLOGIST.

BY F. W. GODING, M. D., RUTLAND.

"Poets are born, not made," may be true as far as poets are concerned; but scientists are made, not born, as is well shown in the following sketch.

This well-known entomologist and Maya-linguist was born, July 27, 1825, in Kingsport, Sullivan county, Tennessee, of Pennsylvania-German parents, whose home had formerly been in Maryland.

During his youth, he attended the village schools, later spending some time at the academies in that vicinity, though he never enjoyed the advantage of a college course of study. He, however, obtained a knowledge of the more advanced branches of science and mathematics by individual effort, without the aid of a teacher. It appears that his mother had intended for him to enter the medical profession after a thorough course of study; but his tastes led him in an opposite direction, and he began the study of law in 1849, in Jackson county, Illinois, where he had recently located, at the same time being engaged in teaching school. Two years afterward he was admitted to the bar, about the same time being elected county clerk.

In 1850 Mr. Thomas married a sister of the late Gen. John A. Logan, who died in 1864. About this time he dropped the practice of law, entering the Lutheran ministry, in which he became widely known.

Early in his career Mr. Thomas sought for some branch of science in which he might carve a round in the ladder of fame. As a consequence the study of entomology was taken up, in 1856, deliberately, as being least expensive and with the materials closest at hand. After gaining a clear insight, by careful study and observation, into the intricacies of entomology in general, he made a specialty of the Orthoptera, eventually becoming our greatest American authority thereon. His views early took a practical turn, and his greatest delight was in contributing articles of economic importance to the agricultural press. His writings on economic entomology are to be found in files of the *Prairie Farmer*, *Rural New Yorker*, *American Agriculturist*, *Farmers' Review*, and the Transactions of the Illinois Agricultural Society and those of this Society; while those of a technical nature appeared in the *Canadian Entomologist*, Proceedings Academy Natural Sciences of Philadelphia, Davenport (Ia.) Academy Sciences, Chicago Academy Natural Sciences and State and United States Government Reports.

In 1869 Dr. Thomas was attached to Dr. Hayden's Geological Survey, his attention being devoted to the agricultural resources and entomology of the localities visited, remaining with the survey until

1874. During this time he contributed entomological reports which appeared in the publications of Wheeler's Geological and Geographical Survey, in those of Northwestern Boundary Survey and Lieut. Ruffner's Report, besides his contributions as an officer of the survey and writing his chief scientific work "Synopsis Acrididæ of North America," one of the most valuable of the quarto series of Hayden's report, and considered the most exhaustive work on the family extant.

While connected with the Survey he was married (1870) to Miss Dawes, of Pennsylvania, who daily assisted him in his scientific work.

Having been elected to the professorship of Natural Sciences in the Southern Normal University, at Carbondale, Illinois, in 1874, he severed his connection with the survey, the next year being appointed State Entomologist by Gov. Oglesby. His six reports, which were issued during the time he held the latter position, are of especial value, as a portion of each forms part of a manual of economic entomology. The first is devoted to Coleoptera; the second to Lepidoptera (by Prof. G. H. French); the third to the Aphididæ; the fourth to cabbage insects and Acrididæ of the State; the fifth to the larvæ of some of the Hymenoptera and Lepidoptera; the sixth to injurious insects of the year. Each volume also gives a large amount of entomological information made up from notes of the year, and two monographs—the chinch bug and the Hessian fly—(by Dr. A. S. Packard). In his entomological work the doctor was assisted by Mrs. Thomas, Prof. G. H. French, Miss Emma J. Smith, Mr. John Marten, Mr. D. W. Coquillet and Miss Nettie Middleton as regular assistants, each of whom contributed articles for his reports, which adds much to their value.

Upon the organization of the United States Entomological Commission, Prof. Thomas was appointed one of the three members—Drs. Riley and Packard being his associates—and served until the labors of the commission were complete. He furnished several chapters to the first report and materials for the others, besides writing Bulletin No. 5, on the Chinch Bug, the only complete paper on the subject, until the recent appearance of Mr. Howard's cyclopedic essay.

In July, 1882, Dr. Thomas resigned his professorship at the University and the office of State Entomologist, accepting a place in the Bureau of Ethnology, Smithsonian Institution, Washington, D. C., and has since devoted his attention to archeology. In his new field of labor he has added greatly to our knowledge of mound builders of the Mississippi Valley and Gulf States, and is one of the most successful students of the Maya manuscripts.

As a writer he always communicated his thoughts in the clearest English and in a methodical manner, his papers being arranged ac-

cording to a well-defined plan. Dr. Thomas was a hard student, a thorough teacher and, to some extent, an original investigator.

His review of Darwin's works from an orthodox standpoint, published in the *Gettysburg Review*, were considered of such value that the Gettysburg College immediately conferred upon him the degree of Ph. D. At present Dr. Thomas resides with his family in Washington City, where he lives the life of a retired philosopher, reaping rich rewards for his half century of arduous labor in assisting to educate the masses in scientific knowledge.

OUR FEATHERED FRIENDS.

BY FRED GRUNDY, MORRISONVILLE.

Every fruit-grower and farmer is well aware that the most active and pernicious foes we have to deal with are the many species of noxious insects which infest our fields, orchards and gardens. To check their ravages, we resort to expensive poisons, traps, nettings and other appliances, and yet, despite our utmost efforts, they seem to be steadily increasing in numbers and becoming more destructive each succeeding year. Whether this is owing to the increased area of fruit plantations, or to the destruction of their natural enemies, is an unsettled question. Certain it is, however, we must wage an incessant war upon them with every means at our command, or cease trying to grow fruit. In this warfare, we must be vigilant and aggressive to be even partially successful, and we must call to our assistance every natural ally that walks, flies, crawls or swims. Furthermore, we must take energetic steps to protect, with stringent laws, these natural allies from destruction by people who are ignorant of their good services.

We must, especially, protect our insectiverous birds, the most efficient allies we have. We must protect them from the bad boy with the rusty musket, who shoots them simply because he can; from the nobby-nob sportsman, with the hundred-dollar dog and silver-plated fowling-piece, who delights in a full game-bag that he may have something to boast of when he returns to his club, and from the heartless devotee of senseless fashion, who hankers after their wings and tails, wherewith to bedeck her headgear!

Not only must we protect our small birds, but the larger ones also. Under an act of the Legislature, prairie chickens have not been shot in this State for two years, and their numbers have increased to quite an extent. This beneficient law has but one year more to run, and then, unless fruit-growers and farmers combine and take active measures to prevent it, hordes of pot-hunters and nob-nobs will invade our fields and destoy them by the thousands.

Let us take this matter in hand now and intercept these maurauders. Let us petition our legislature to enact laws that will secure these birds from the certain destruction that is impending. Let these petitions be signed by every fruit-grower and farmer in the State, and our law makers will not dare to disregard them. Unless we are vigilant and active in this matter our feathered allies will be exterminated before our eyes by irresponsible pot hunters and supercillious nabobs, who will enter our fields, trample down our crops, recklessly shoot among our stock, disturb the quiet of the Sabbath. and insolently scoff at our futile protests. Prairie chickens, quails and meadow larks are regarded as legitimate spoil by these freebooters, and these are among the best allies of the fruit grower and farmer. The number of grasshoppers, crickets, cut-worms and other noxious insects that they annually destroy is beyond computation. We need them, therefore let us preserve them. Let this Society earnestly take this matter in hand at this meeting, and protect these birds from the disreputable shot-gun tramps, who are preparing to destroy them by wholesale as soon as the present law expires. Let it pass emphatic resolutions to that effect, and appeal to every fruit grower and farmer in the State to lend their aid in defeating the rapacious designs of the aristocratic and insolent sportsmen's clubs of our cities.

Transactions of the ....

FIFTEENTH ANNUAL MEETING

OF THE

HORTICULTURAL SOCIETY OF CENTRAL ILLINOIS.

HELD IN

CHAMPAIGN, AUGUST 1ST AND 2ND, 1888.

Reported by A. C. Hammond, Secretary.

CONSTITUTION.

ARTICLE 1. This Association shall be known as the Horticultural Society of Central Illinois, and shall embrace the counties of Adams, Brown, Cass, Champaign, Christian, Coles, De Witt, Douglas, Edgar, Fulton, Ford, Iroquois, Hancock, Henderson, Knox, Logan, Livingston, McLean, McDonough, Mason, Marshall, Mercer, Menard, Morgan, Macon, Moultrie, Peoria, Pike, Piatt, Sangamon, Shelby, Schuyler, Scott, Stark, Tazewell, Vemilion, Warren and Woodford.

ART. 2. Its object shall be the advancement of the Science of Pomology and the Art of Horticulture.

ART. 3. The membership of the Society shall consist of members of all local Horticultural Societies in the district who have paid their annual fee, and of all other persons interested in horticulture, on the payment of an annual fee of one dollar, the wives and daughters of the members, who shall be members without fee, and such honorary members as the Society may elect.

ART. 4. Its officers shall consist of a President, three Vice-Presidents, a Secretary, Assistant Secretary, Treasurer and Executive Committee, which shall consist of the President, Vice-Presidents and Secretary, and shall hold their offices for one year, or until their successors are elected.

ART. 5. The Vice-President first elected shall be a member of the Executive Board of the State Horticultural Society.

ART. 6. This constitution may be amended at any regular meeting by a two-thirds vote of the members present.

BY-LAWS.

1. The President shall preside at all meetings of the Society, call meetings of the Executive Committee, and, under its direction, have a general superintendence of the affairs of the Society and direction of the expenditure of its money; he shall deliver an annual address upon some subject connected with horticulture, and shall appoint all committees, unless otherwise ordered.

2. The Vice-Presidents, in the order of their appointment, shall act in case of the absence or disability of the President, and shall, by correspondence and personal intercourse with the horticulturists of their several localities, endeavor to organize local societies, obtain accurate information of the condition and progress of horticulture therein, and report annually, in writing, to the Society.

3. The Secretary shall record the proceedings of the Society, attend to its correspondence and prepare its reports for publication.

4. The Assistant Secretary shall assist the Secretary to record and prepare for publication the proceedings, and in his absence to discharge the duties of his office.

5. The Treasurer shall receive and keep an accurate account of all moneys belonging to the Society, and disburse the same upon the written orders of the President and Secretary, which he shall retain and file as vouchers; he shall make an annual report to the Society of the receipts and disbursements, which, with the vouchers, shall be referred to the Executive Committee for settlement. Before entering upon his duties he shall give a bond in the sum of two hundred dollars for their faithful performance, such bond to be approved by the Executive Committee.

6. The Executive Committee shall, subject to the direction of the Society, manage all its affairs.

7. The By-Laws may be altered at any meeting by a majority vote of the members present.

OFFICERS FOR 1889.

President — C. N. Dennis, Hamilton.
First Vice-President — F. I. Mann, Gilman.
Second Vice-President — H. M. Morris, Rantoul.
Third Vice-President — Frank Cadwell, Griggsville.
Secretary — A. C. Hamnond, Warsaw.
Assistant Secretary — Bessie M. Nash, Warsaw.
Treasurer — Frank J. Heinl, Jacksonville.

Next Annual Meeting at Normal in May.

LIST OF MEMBERS FOR 1888-9.

Beisser, F. A ..... Champaign.
Burt, H. O ..... Brimfield.
Cadwell, Frank ..... Griggsville
Chester, E. E ..... Champaign.
Dennis, C. N ..... Hamilton.
Doan, H. L ..... Jacksonville.
Dunlap, A. L ..... Savoy.
Dunlap, H. J ..... Champaign.
Dunlap, H M ..... Savoy.
Franks, Thomas ..... Champaign.
Hammond, A. C ..... Warsaw.
Heinl, F. J ..... Jacksonville.
Mann, F. I ..... Gilman.
McCleur, G. W ..... Champaign.
Morrow, Prof. G. E ..... Champaign.
Morris, H. M ..... Rantoul.
Pillsburg, W. L ..... Champaign.
Thompson, J. G ..... Urbana.

Proceedings of the ....

FIFTEENTH ANNUAL MEETING

OF THE

Horticultural Society of Central Illinois.

WEDNESDAY A. M., AUGUST 1.

The Fifteenth Annual Meeting of the Horticultural Society of Central Illinois, met in the Opera House in the City of Champaign.

President C. N. Dennis called the meeting to order and called on the Rev. Wolf to offer prayer.

The President stated that at the suggestion of the local members the address of welcome would be left until afternoon and we would now listen to the various reports.

SECRETARY'S REPORT.

BY A. C. HAMMOND, WARSAW.

We deem it a pleasure to meet in the goodly city of Champaign to commemorate the fifteenth anniversary of the organization of the Horticultural Society of Central Illinois.

Why have we left our homes, our varied duties in the field, berry plantation or orchard to attend this meeting. We are sometimes asked, why do we have so many societies and meetings of this kind, as they require a considerable sacrifice of time, money and energy on the part of those who sustain them. Do they pay? If we estimate their value in dollars and cents that are to jingle in our pockets at once, we must answer, no! but if we take into consideration the great number of rural homes that are coarse and unattractive, not to say repulsive, whose tables are supplied with only the necessaries of life, where the children are restless and unhappy and the father and mother live a weary, unreal life, with no noble aspirations, no desire to make their homes bright and joyous for their own and children's good, we can understand the importance of the interests involved.

Such is the work that organizations of this kind are called upon to do. Have we not then a mission? Is it not a high and noble one? Shall we refuse to lend our humble aid, though it may require some personal sacrifice, to press forward the car of rural progress? Nay, verily, let us patiently teach the beautiful gospel of horticulture till every farmer's home is made pleasant and home-like, surrounded with trees, shrubs and flowers, till every farmer's table is constantly supplied with delicious, health-giving fruit and vegetables, till the young people of the farm are made to appreciate their advantages, and to realize that their opportunities for health, long life, honor and usefulness are superior to those of their city cousins, and the old people are made to see the error of their ways and turn aside from the treadmill round of labor they have so long pursued, and spend their declining years in the pleasant home they have created, which should be but the vestibule to that fair home that lies but just across the river, which, through the gates ajar, the Revelator gives us a transporting glimpse.

Some one has well said that "horticulture coöperates with religion, education and moral culture." That this is true, I think no one will question. Can not every lady and gentleman present point to communities where a tree, or shrub, or rose bush can scarcely be seen about the house, where a flower never appears in the window or a vine upon the wall, where the miserable excuse for a garden is overgrown with weeds and the few apple trees in the last stages of decay, and the delicious, refreshing fruits that grow so readily in our climate are as rare as those of the tropics? Is it not true that in a community of this kind the school-house is unshaded, unprotected and uncared for, the church neglected and the moral status of the people at a low ebb.

You have all seen the other side of the picture. Communities where the homes were pleasant, the houses convenient and tastily surrounded with a lawn, carefully planted with suitable trees, while in the back-ground may be seen the orchard, fruit and vegetable garden, and near the house the girls are provided with a dainty little flower garden where they are encouraged to grow all manner of hardy plants and flowers; where the table is supplied with the delicious strawberry, the refreshing grape and melting pear and all kinds of the more common fruits and all the garden vegetables in their season. Where a vase of roses fills the house with fragrance, and, even during the chill December days, the plants in the windows shed beauty and fragrance all about them.

A community like this will ever cherish the school-house and church as their richest heritage, and will make pleasant and comfortable the places where the seeker after knowledge and the humble worshipper will delight to tarry. The dwellers in such a community will stand on a higher moral and intellectual plane than where these

conditions do not exist. We may, therefore, conclude that the work we are doing is important, and that, notwithstanding the discouragements that beset us, we must steadily press forward with the assurance that the result will, in time, appear.

A word in relation to the practical working of the Society may not be out of place. Our last two meetings have been held in the hot and listless month of August, when professional men, and others who can afford it, take their vacation, when farmers and horticulturists are wearied with the severe labor of the harvest season, and all feel that if they are entitled to a few days' respite from labor, they would prefer to lie in the hammock in the shade, than bother their brains to write papers, or endure the heat and dust of a journey of one or two hundred miles to attend a horticultural meeting. My experience in securing ladies and gentlemen to take part in these meetings is such that I feel constrained to suggest a change of date, and know of no more favorable time than June. The objection to this month is that strawberry men are too busy to attend, but it is possible that it can be so arranged as to meet before the berry crop ripens.

I also think we could accomplish the greater good by meeting in new fields. There are many such in Central Illinois, some of them having large commercial fruit interests, others only an amateur interest in the work. I hope we shall receive invitations from one or more localities of this kind.

Since the Secretary's last annual report the following orders have been drawn on the Treasurer:

Phil Dallam, printing	$13.25
A. C. Hammond, expenses of Secretary's Office	10.40
Bessie M. Nash, expense bill	10.00
C. C. Hoppe, expense bill	1.50
Phil Dallan, printing	8.25
Total	$43.40

TREASURER'S REPORT.

BY. DR. LYMAN HALL, CHAMPAIGN.

To the President and Members of the Horticultural Society of Central Illinois:

Gentlemen: Your Treasurer would herewith submit his annual condition of the finances of said society.

1887.			
Aug. 4.	By cash received from C. C. Hoppe, Treasurer	$21.10	
Aug. 4.	By ten membership fees	10.00	
Aug. 4.	By cash received from H. K. Vickroy	50.00	
			$81.10

CONTRA.

Aug. 4.	To amount paid A. C. Hammond	$10 40—	
Aug. 4.	To amount paid Bessie Nash	10.00	
Aug. 17.	To amount paid C. C. Hoppe	1.50	
Aug. 17.	To amount paid Phil. Dallam	13.25	
1888.			
Feb. 29.	To amount paid Phil. Dallam	8.25—	43.40
	By balance		$37.70

All of which is respectfully submitted.

H. M. Dunlap — I move that these reports be referred to a committee of three. Motion carried.

President — I will appoint H. M. Dunlap, F. I. Mann and H. L. Doan such committee.

Dr. Hall — As it is the intention of the Society to visit the University while in the city, I think the time should now be fixed upon.

H. M. Dunlap — I move that we leave here at 7:30 A. M. and return to hold our session at 9:30. Motion carried.

The time for meeting was agreed upon as 9:30, 2:00 and 8:00.

Adjourned.

WEDNESDAY AFTERNOON.

Music — Duet by Mrs. H. M. Dunlap and Miss Grace Beecher.

ADDRESS OF WELCOME.

REV. J. B. WOLF.

The address was not furnished the Secretary and, therefore, will have to be omitted.

PRESIDENT'S RESPONSE.

It will be impossible for me to reply in fitting terms to the eloquent address of welcome to which we have just listened. But I assure you that it is with pleasure we visit your beautiful city and

the noble institution of learning located here. We claim this as our institution and feel a pride in its success. We sometimes hear complaints of its management, but they are always caused by ignorance of its work and methods. Those of us who are familiar with it, know that it is one of the best in the country. These fruits and flowers are indications of your love for horticulture, and your interest in the work.

We thank you for your cordial welcome and feel that it is from the heart.

PRESIDENT'S ANNUAL ADDRESS.

BY C. N. DENNIS, HAMILTON.

As we greet each other in this, our fifteenth Annual Meeting, renewing the old and forming new friendships, I trust and hope we all come fully laden with observations and experiences that shall make this meeting one of profit, as well as pleasure, to ourselves and the interest of horticulture, always remembering that we are a factor very necessary in Illinois horticultural progress.

In our State Society we meet our friends from the extreme northern as well as southern points, from Dixon to Cairo. And in these meetings it may be said we generalize, and in the discussion and papers we test the value of the ideas gathered in our homes. It has been said that a man must go away from home to learn how to live at home, so it is well to go away from home to learn horticulture for the home. And while the State Society is a noble one, the Central is equally important in its line, and one of its important duties, I think, is to get nearer to the masses of the people and awaken more real practical interest in horticulture, and I presume the best way to do this is to encourage the formation of local societies, as it is in these that the real genuine experimenting is done, and it is from these that the Central and State Societies draw their ideas, yes, their existence; and just in proportion to the number and ability of the local societies, does the tide of this and the State Society rise or fall. We should, but, alas do not, have a live horticultural society in each county of the central district, and how to accomplish this would well be worthy the consideration of this Society at this meeting.

And were I to be allowed a membership in but one Society, to the State Society, I would say, old friend, as much as I honor, respect and esteem you, you present to me fields warmed by Southern suns, and yet other fields of much colder clime so diversified, that with my limited ability, I am not able to fully master your varied conditions, therefore, noble old institution, the peer of any in the sisterhood, I have other loves nearer and dearer to me, so must bid you farewell, and the Central, while I feel much more akin, I find in the northeastern portion of its extent, and about Champaign and along the Illinois and Spoon rivers, so much diversity as to almost,

if not quite, require the best efforts of the specialist, so from you too, I must be divorced. But when I come to our Local Society, every member is a brother, every horticultural fact adduced and every false theory exploded is a landmark for me, therefore, I feel like saying, "Yea, thou art bone of my bone and flesh of my flesh, and whithersoever thou goest, will I go, and verily I will remain with you all the days of my life." But happily this is not so, you and I are permitted to enjoy and drink from the fountain of all these, and we are blind to our interest and negligent of our duties if we do not do this.

But the whole question of successful fruit growing is not solved by the use of London purple, for we find a little worm forcing its way through and through the apple, and the scab upon the outside and some of the croakers exclaim, "what is the use of spraying to kill the codling moth if these other pests are to prevail?" I know of no way to ascend a long staircase, except step by step, and this is but illustrative of fruit growing.

Coöperation is a necessity in successful fruit-growing, or, as our Secretary expressed it some years ago, "united systematic effort." Prof. Forbes has solved the codling moth problem, and farmers are availing themselves of the benefits of his experiments with much success, and whether Prof. Burrill's experiments with bacteria is frightening them, I do not know, but pear blight has been less for the two past years than formerly.

It has been asserted that there is less horticultural interest in Illinois now than formerly, but allowing this to be true (and I am by no means sure that it is true) what does it prove, only that it, like everything else, has its rise and fall; extremes of heat and cold, of wet and dry, have had their devastating and depressing effects, but I am confident that the greatest depression has passed and the horticultural skies will continue to brighten for a term of years at least. But in our eagerness to regain our losses let us be careful to make no mistakes, don't let us draw to heavily upon our lands without returning an equivalent in the way of fertilization, any more than we would upon a bank account, or sooner or later our drafts will be dishonored. Failures are not confined to our State, New Jersey and New York sends up the same doleful cry and within their borders may be seen neglected orchards where many of the trees are dead or dying.

The truth is, the great mass of the people are woefully ignorant upon the subject of fruit growing. Looking for results without labor, and expecting the earth to yield spontaneously everything valuable for human sustenance is a fallacy that should be abandoned. Persistent labor intelligently directed would, and probably will make our beautiful State abound in orchards, gardens and vineyards equal o any on the continent. Last year we met at Elmwood in the midst

of extreme drouth, this year we have a superabundance of rain. This is as might be expected, as one extreme follows another, although sometimes more plainly marked than at others, and how to profit by these is what we need to know.

Arbor Day should receive more attention than it did last April, and school yards should be beautified, and teacher and pupils become interested in the good work; and while I would leave landscape gardening to the specialist, who should be thoroughly trained in his vocation, yet the love of the beautiful will be inculcated and permeate the young, and they will be led to look from the beauties of Nature up to Nature's God. And, in conclusion, let me say that Illinois presents to the horticulturist as fair a page as any State in the Sisterhood, sufficiently diversified to enable the most fastidious to select from. And it rests with you to see well to it what is written on your page, whether in aftertime it shall be said it is well, or ill,— that you lived and took part in Central Illinois horticulture.

WHAT SHALL WE GROW FOR MARKET AND HOME USE?

BY H. M. MORRIS, RANTOUL.

Beginning in the nursery and small fruit business, fifteen years ago, I have had many disappointments and a few successes,— not financially, for I do not consider this part of Illinois adapted to growing fruit for profit, — but in the way of experience I have gained a small fortune. This paper will mention such varieties of fruit as I have grown and seen growing in this and adjoining counties, which seem to be the hardiest and yield the best. Beginning with the apple orchard, I find that the Willow Twig, English Golden Russett (although the fruit drops badly), Minkler, Roman Stem, Grimes' Golden Pippin, Ben Davis, Smith's Cider and Tallman's Sweet, for winter; Maiden's Blush, Wealthy, Fameuse, Bailey Sweet and Whitney's No. 20, for fall (the latter is a crab apple, and though rather small for market, is good enough for any body to eat, and the tree is very hardy): Tetofsky, Red Astrachan, Sops of Wine, Keswick's Codlin and Duchess of Oldenburg, for summer, are among the oldest trees and are in the healthiest condition. To these I would add, for trial, Mann. Salome and Pewaukee, for winter; Stumpf and Haas for fall, and Yellow Transparent for summer. I have never fruited these varieties, but they make a fine growth in the nursery, and the indications are that the trees are very hardy, although the Yellow Transparent has shown some blight. Of crab apples, I find but three varieties worthy of culture,— Whitney's No. 20, already spoken of, for early, Transcendent and Hyslop for medium and late. There is one thing of which I wish to speak at this point, although it is foreign to the subject, for I consider it a matter of great importance.

Having visited nearly four hundred orchards in Champaign and surrounding counties, I find the healthiest trees are those trimmed with low heads — low enough to shade the body of the tree in the winter,— and those grown on high ground and side hills. I know of Maiden's Blush and some other sorts, grown on a hillside, which have been standing thirty-five years and are still sound and robust. Of the sorts mentioned, the Willow Twig is the hardiest and most abundant bearer, the apple is a good keeper, sells well, and in February and March is not bad to take. The Ben Davis is a short-lived tree as you well know, and the apple is second-class in quality, but first-class to yield and sell. I have ten trees planted eight years ago as grafts, which are in fair condition as to soundness, and will, I think, make three bushels of apples to the tree this season. The Minkler is a sturdy tree, an even bearer of a rich apple and will thrive on low land. Sops of Wine, in summer apples, is also an exceedingly hardy tree. The Maiden's Blush, where grown on high ground, is a long-lived tree and a great bearer of a good marketable apple. My experience with pear trees has been to set them out and have them blight and die. Flemish Beauty and Clapp's Favorite are the only sorts I have had in bearing and they are now dead. I have twenty-five Kieffer's Hybrid grafted on their own roots that promise fairly, but I have no great expectations. I have tried a great many plums and have found nothing but the Miner, on its own roots, that has ever borne fruit in any quantity.

Early Richmond, English Morello and a cherry I call the Late Dutch are the only sorts I have ever found to succeed. There is some profit in growing the Early Richmond. The English Morello is about ten days later, a good-sized, dark cherry, sour enough to make one cross-eyed, but are excellent for pies, or to can, as the juice is very rich. The Late Dutch cherry is a medium-sized, sour cherry, light in color, and the tree reproduces itself from the roots. The tree is hardy, a prolific bearer, about one week later than the Early Richmond, and therefore profitable to sell to those parties who waited for the price of early cherries to go down and got left, and are ready to buy at any price.

I have succeeded reasonably well in growing quinces for home use. I have the Orange Quince grown from cuttings, with the soil around them covered to the depth of six inches with slacked lime, wood ashes and salt. This year they are loaded with fruit. The best grapes, in my opinion, for market, are Concord, Worden, Moore's Early and Pocklington. They are good enough, too, for home use; not but that there are many other good sorts, but these seem to do the best with the least attention. The Worden grape with me is taking the lead. I have never seen any signs of mildew on the vines or fruit in four years' culture. Moore's Early is the most profitable, because it ripens very early, and, and of course, sells for a higher

price, although one year with another the Concord will net the most money.

Of gooseberries, Smith's Improved takes the lead with me; fruit very large, great yielder, bushes very hardy. The berry is green when ripe, and, to my taste, very fine. There is some profit in raising gooseberries for the market. La Versailles cherry and white grape currants do the best for me. I have some Fay's Prolific, but they have never fruited.

Currants pay very well for market from the fact that the bushes will flower in the shade under trees, and in out-of-the-way places where nothing else will grow. But do not try such a plan with gooseberries, for the fruit will mildew.

The Snyder blackberry is the only variety in which there is any profit for this section of the country. Farther south they are growing the Early Harvest, but it winter-kills for me. The blackberry can be grown on ground already occupied with trees. I have my cherry and apple orchards set with the Snyder blackberry and the trees seem to do better from the protection afforded by the vines, and, as I could not cultivate the ground in garden crops, strawberries or anything else, I consider the blackberry crop clear gain. I would say here, that my apple orchard has been in Snyder blackberries for twelve years and the blackberry has never failed to yield well until last year, when the berries dried up on the vines, and this year, because last year's canes were killed by the drouth.

Of raspberries, Souhegan for the early black cap, and Gregg for late, are my choice, and both are profitable to some extent. Marlboro, for red, does very well, but I dislike any variety that spreads from the roots. Shaffer's Colossal is the *ne plus ultra* of raspberries. It is a red black cap, purplish red in color, propagating from tips, and is the largest and most prolific raspberry grown. Good for canning, as it keeps its shape, is quite tart, more so than the black cap, and is therefore fine for table use. In my estimation it is the best raspberry grown, for all purposes. The vine is wonderfully rugged and a rank grower. It has, with me, shown no signs of rust, and, like the Crescent strawberry, it is the lazy man's berry, for it will crowd out all weeds and grass and take complete possession of the ground. Although the fruit is off in color, the size and quality make it sell readily; this season it sold far quicker and brought more money per quart.

Capt. Jack, Charles Downing, Crescent Seedling, Sharpless, Glendale and Old Ironclad are my choice in strawberries. I have grown so many varieties that I can't really say just which I prefer above all others.

This year strawberries were not profitable, because there were none to sell. Two years ago they were not profitable because there were so many we could not sell them. (There is no profit in strawberries

at five cents a quart.) Last year they were not profitable because of the drouth, that is for market. The Lucretia dewberry promises to be worthy of culture for home use. The cultivation is simple and what experience I have had with it leads me to believe they will be very productive, and the berries are delicious. For home use I would also grow a few of the upland huckleberries, and the june berry. Both do well for me and almost never miss a crop.

Every fruit grower ought to keep a few colonies of bees in some movable frame hive. Simplicity I think the best; by studying their habits a little he can have all the delicious honey he wants to eat and the bees help materially in fertilizing his fruit. I raised one year a good crop of Crescent Seedling strawberries from a bed of pure plants where there were no other kind in sixty rods, and I gave the bees the credit. As for bees destroying grapes, I do not believe it. I have raised grapes and kept bees for ten years; having as many as 150 colonies at a time and have never lost any grapes because of the bees. From ten colonies of bees I have sold 1,000 pounds of honey at fifteen cents, and that beats fruit culture all to pieces. There's thousands in it gentlemen, of you don't believe it try a swarm. But after all for profit, one-half acre in Folter's cabbage and one-half acre in Yellow Danvers onions, will bring in more money than any acre of strawberries, raspberries or blackberries, one year with another and with less labor.

Dr. Hall — I look upon the Whitney No. 20 as worthless here.

H. M. Dunlap — I would class it as a summer apple. I would strike out Smith's Cider, as it is not hardy with me, and would add the Tyson pear. Bubach's No. 5 and Jessie strawberries are better, I think, than those in his list.

THE PERENNIAL GARDEN.

BY FRANCIS J. HEINL.

It is surprising what an amount of indifference is shown among lovers of Nature's beauties, in regard to our commoner wayside flowers and our hardier plants. It is generally supposed that to have a home beautified by flowers, etc., that it requires a considerable purse. While it does require considerable funds to have a conservatory filled with tropical plants, we may have our homes surrounded by the most beautiful plants at a small cost and with a little labor. I suppose you think it strange for one who has plants and flowers for sale to speak this way, but I am one of those who think that the more taste we develop among the people for the commoner plants, the greater the demand will be for the higher-priced ones.

At this time we cannot dwell on the management of a house-

yard, lawn, or garden, but we will take it for granted that you have a place to plant, and I will endeavor to give you a few hints in regard to some of the best perennial plants.

We will first look in our fields for native or wild plants, remembering, when we find one, to give it, as near as possible, a like position in our garden; and as there are so very many attractive field and forest plants, we can only look at a few of them.

In the spring we find the wake-robin, claytoma, or spring beauty, dog-tooth, violet, blue-bells and others; although these plants are not so attractive as those which appear later, when we can find cone-flowers, cardinal and blue lobelias, lady slippers, golden rod, asters, daisies, petunias, and a great number of other plants, including ferns, and several vines, which, although wild flowers, are considered in good taste; in fact, they are the more popular in cities, resorts and at watering places in their seasons. Among the hardy plants which may be obtained of any florist or nurseryman at a small cost, we find many which rival our bedding plants for show.

The garden phlox (perennis) is a plant which withstands our severest winters and our long summer drouths, and will furnish quantities of bright bloom almost all summer and autumn. They may be had in any shades from white to brightest scarlet, and make a gorgeous show where a number are planted together. The plantycloden or wahlenbergia, which is a bulbous plant and perfectly hardy, is covered with a profusion of white and sky-blue flowers from June till autumn; it grows about two feet high and will do well in a partially shaded place, but better in hot sunshine. The day-lily, a plant which does well only in a rather dry place, furnishes fragrant lily-like flowers, which are blue or white, in August. Astille Japanica, or the Japan Spirea, is one of the prettiest summer-blooming plants, with its mist-like white plumes, and flourishes well in almost any sunshiny place. The Japan Animone, which requires a partially shaded place, produces beautiful ivory-white flowers from mid-summer until frost. For a bright, yellow flower, nothing surpasses the tuberous-rooted sunflower (helianthus multiflora) with its bright flower, and it will do so well in the hot sun and blooms all the season. The deep blue, dwarf plumbago larpentia, furnishes a multitude of flowers of this scarcest color in flowers. The carnation-flowered lynchness furnishes us with its double white flowers, nearly all summer, and does best in a partially shaded place. We must not forget pæonias, those old-fashioned flowers which are always showy and which are now being made to flower in the brightest scarlets, nor the hollyhocks for which some corner should be reserved.

These plants I have mentioned, all spread, and care should be taken that they do not overgrow other plants.

Among the hardy imported bulbs which bloom in early spring,

we have the iris, or fleur-de-lis, or, as some would say, flags. If you have not seen the Japan varieties, you certainly would be surprised at the wonderful combinations of bright colors and the large flowers; they are perfectly hardy and may be depended upon for a good show. The tulip is another bulbous plant which, though common, is one of our most gorgeous spring flowers. Crocuses, the earliest flowers that blossom, are always showy on account of the time they bloom and are very hardy.

The most popular flower that bloom in the spring are the narcissus, the daffodils, jonquils, etc., with the curious flowers and their great variety, and there are many other bulbous plants that brighten up the early spring.

The lilies are among the showiest, most varied and most satisfactory bulbous plants. These may be had to bloom at any season. So great is the variety of lilies that most of us could fill our yards with them and then have but a few varieties. These bulbous plants should be planted in the fall, and prefer partially shaded or sunny places and rather dry, well drained sandy soils.

The hardy shrubs which attain some size always make a nice show if trimmed and kept in shape. Among these we find great panicated hydrangea, which in midsumer is covered with immense panicles of white flowers, which will remain on the plants until the next spring. This is one of the most desirable shrubs. The altheas, sometimes called rose of Sharon, are desirable, as the bright colored, showy double-flowers are in their prime at a season when flowers are somewhat scarce.

The syringa is very desirable for an early summer flower, and especially so is the double-flowered one. One of the sweetest perfumed flower is the clethra alnifolia, which bears its small plumes in midsummer.

Then we can have the weigelias, the deutzias, or the spireas, which bloom in the spring, or the lilacs which we all know, and which, with the sprieas, are the worst plants to spread and fill a yard with underbrush that we know, and we should be cautious in planting them.

For vines, we have the Virginia creeper, ampelopsis or the trumpet vine, which cling to walls, trees, etc. Honey suckles, which we all know, and the Chinese wistiria with its pendulous blue flowers are good climbers which do not freeze in the winter. The passion vine, which freezes down and should be protected, furnishes a profusion of white or blue flowers which are symbolic of the passion of Christ on the day of the crucifixion. In the last few years the clematis has become popular, and well it should, for it is one of the most gorgeous of hardy plants. The great variety of color and form helps the plant in its popularity.

In obtaining these hardy plants, care should be taken to obtain

only good strong, healthy plants, for they have to pass through a severe test the first winter, and especially with clematis, hydrangeas and the bulbous plants. You should be cautious, for it is no use to plant weak plants. When you get your plants, always spade the ground deep where you plant, and cultivate around them after planting. Care should be exercised that they do not spread too much and do not get ill-shapen. This is especially so of the shrubs, which should be pruned from the day they are planted.

I have endeavored to give you in the foregoing list, plants which are hardy and worthy of cultivation in every way; of course I have named but a few of the more desirable. I have not mentioned roses, because that alone is a topic sufficient for a paper. Neither have I mentioned any ornamental trees, nor evergreens, some of which are worthy of a place in every garden. If attention is paid to these plants and the place of their nativity is known, one can do much better with them than if he goes according to any directions, and if attention is paid to them he will be rewarded with a bountiful supply of foliage and flowers. When buying do not invest in a miscellaneous lot of plants of which you know little. If you have succeeded with any particular variety, always cultivate them, each year trying a few of the newer and better plants.

PRACTICAL FLORICULTURE—WHAT CAN WE DO ABOUT IT?

BY THOS. FRANKS, CHAMPAIGN.

Mr. President, Ladies and Gentlemen:

The question involved in the above heading is one that presents many sides, and to fully answer it would take too much of our time. A person of an observing nature, traveling over this great country, who has seen the gardens of England, France or Germany, can not but be forced to admit that we are a long way behind them in the general cultivation of flowers. We have some noble specimens of the art in a few of our large cities; but that universal passion among all classes, that is so strongly characteristic of people in the Old World, is sadly lacking here.

How we can best create an interest in this matter, and encourage all efforts in this direction, is for us to find out. We are a highly privileged class of people, living in this central portion of Illinois, where the conditions for plant growth are so favorable that we are apt to lose sight of these advantages or fail to appreciate them until we compare them with other sections of the country, less favored in this particular. Here, we have a soil, practically inexhaustible if properly cultivated, where all the elements of plant food lay at our door, waiting to be converted into flower and fruit by all who will but study the wants of our plants and apply them.

With all these circumstances in our favor, why is it that we manifest so little interest in the growing and care of flowers? With a few rare exceptions, men do not care for their cultivation. Their minds seem to be absorbed in the pursuits of business or pleasure of another character, to the exclusion of all thoughts of the possibilities and pleasures to be derived from their cultivation. I hope to see the time when men will take more interest in their garden (or yards as they generally call them, the very name of which is a degredation), and not leave them entirely to the care of the ladies.

There is surely enough in it to engage their great intellects and to satisfy their highest aspirations in this world. But how to bring about this desirable condition of things is a difficult matter to solve. I would suggest beginning with the home, and there teach the children to love and cultivate flowers, and here I feel grateful for the many examples set before the children by their mothers. I would also introduce flower culture in our public schools, which, to my mind, would be a good plan if taken in hand by teachers and pupils with a will, and I have no doubt but it would succeed after once getting into running order. The carrying out of this plan in detail, however, would have to be left to the teachers in charge. I will only suggest, in a general way, a few thoughts to lead up to that end. First, set aside a plot of ground for the use of each class. Second, devote, say half an hour each day to the study, or practice of plant growing. During the spring term seeds, cuttings and bulbs may be raised in the windows, and cared for until warm enough to remove them to the garden, when many other plants and seeds may be procured, and the classes vie with each other in making and keeping the neatest garden. Let all plants be correctly named on conspicuous labels.

The minds of the young, being plastic and susceptible, are easily impressed, and there is a natural love among children for flowers, and lessons taught there would never be forgotten. Besides, what could we suggest that would make the school and its surroundings more pleasant and inviting than flowers? I know of nothing, and I hope our school directors will take the hint, and provide suitable grounds, tools, seeds, plants, etc., and give it a trial: and I feel sure the result would warrant them in continuing it, and the children would acquire a fund of floricultural knowledge that would be a source of never-ending pleasure to them, and, having begun aright, would continue to pursue, as a pastime, the culture of flowers intelligently in after years. This idea of introducing the practice and study of floriculture in our schools can but be conducive of great good in the future, and its effects would be apparent all over this great country. In addition to this, it behooves us, as members of this Society, to try and interest, by precept and example, the masses of the people in this branch of horticulture.

How many members present can demonstrate to their friends that they have faith — not to say enthusiasm — in this most captivating of arts? I fear, aside from the work done by the lady members, we should look in vain for any indications of it from the majority of those present, and this, too, a professedly horticultural body of men. Is it not a fact that your time is absorbed in looking after your nurseries and your fruit farms, to the exclusion of all thought in the direction indicated? Is it not a fact that your members have so lost sight of this branch of horticulture that the very name of your Society is a misnomer, and should be changed to "Illinois Pomological Society," in order to properly represent the interests of the members. Methinks I hear some one say "What's the use of men fooling with flowers. There's no money in it. It's good enough for women and children, and I don't mind seeing them around, providing I don't have to do any of the work or care for them?" I am sure those are the sentiments of many present, for I have heard them expressed many and many a time.

Do not suppose, for one moment, that I expect you to put in lots of your time attending to flower when other work is pressing, but do a little to help the ladies and children whenever you can spare a few moments, and do not make them feel it is beneath your dignity to help bring toil or some other heavy work that the women often have to do themselves. Show them that you are interested in the work and they will appreciate it.

I do not think it will pay every man in dollars and cents to cultivate flowers, but it will reciprocate by cultivating his better nature and leading his thoughts into higher and nobler channels. It will make the home more attractive for the children, and will tend to keep their minds more at ease and restrain them from many evils and desires to wander from home. And I know the good lady of the house will be delighted with the help and interest taken in the garden by the men. For I take it for granted they are already interested in this department. And as to adding a market value to the property, this is a selfish way of looking at it, and not a worthy one, but may have weight with some. It will materially enhance the value of the whole, and would bring a good return on the investment in dollars and cents. But my impression is, if I can persuade all men to plant flowers and make their homes beautiful and attractive, they will not want to sell out and go West, for we have here everything that any reasonable man can ask for.

Now if you have expected in this paper to have me give you practical hints or instructions on plant culture, I am afraid you will be disappointed. I take it that an intelligent body like this one, would not thank me for trying to tell them how to grow a rose or geranium. If you will only plant them and give them the same care and culti vation you give your small fruits I think there will be no trouble about the results. Wont you try it?

Thos. Franks — I take issue with Mr. Heinl in regard to the hyacinth, they are hardy here and I never heard of their not being considered so before.

Francis Heinl — For the last five or six years, they seldom bloom after the first year. They are not worth planting with us, it may be on account of the damp weather.

H. M. Dunlap — At what depth should these bulbs be planted?

Thos. Franks — They want lots of sand, half sand would do, and plant at a depth of three or four inches. We plant them after the the frost has destroyed the other plants. Care should be taken not to have water stand around them. They should be covered with some sort of litter which should be kept on till the frost is nearly all out of the ground. Hyacinths should not be left in the ground year after year, as they will degenerate. They should be taken up every spring and tulips every year or two years.

F. I. Mann — I think we are apt to make our flower beds too small, they do not resist the drouth as well as larger tracts.

F. Heinl — In most cases the ground is spaded too shallow and dries out sooner on that account.

Prof. Morrow — For years these Societies have been discussing these topics, but these are among the best papers I have ever heard. I know very little about flowers, Mr. Franks makes them his business and, hence, understands the subject. We are not all constituted alike, and while one may have a passion for flowers, another may for corn and vegetables or horses. We should all follow our own business. My observation about flower beds is that, unless we have a great love for them, we should begin on a small scale, better a lawn with nothing but grass and trees than flower beds neglected and overgrown with weeds.

Mr. Chester — Would you advocate watering when as dry as last year?

Mr. Franks — I am opposed to watering as it is usually done. It is of no use to sprinkle the top of the ground. If the ground is well stirred there is little need of watering.

Mr. McCleur — If watered to the depth of four or six inches, it is a good plan to water. A good plan is to run the water in small tile laid six or eight inches deep.

Song — "Consider the Lilies," by Mrs. H. M. Dunlap, Savoy.

BEAUTY.

MRS. EMMA SPENCE.

There is religion in a flower;
Its still, small voice, is as the voice of Conscience;
Mountains and oceans, plants, suns and systems
Bear not the impress of Almighty power
In characters more legible than those
Which He hath written on the tiniest flower
Whose light bell bends beneath the dewdrop's weight.

— *Horace Smith.*

The voice of the flower is that within its organization which causes to arise in our souls a love for the beautiful. Its silent appeal bids us for the moment to forget the unfortunate, the depraved, the miserable of life, and to bend in admiration over the unsullied, the innocent, the pure. Thus is fostered a never-dying appreciation of the lovely and true in creation. Love for the beautiful is innate. The child in its cradle grasps for the bright-colored objects near it and clasps its tiny hands in glee over pretty trifles.

The ancient Greek regarded beauty of form and feature as an evidence of goodness. In his mind, the two were always associated, since his gods never conferred upon a favorite the one without the other. Physical perfection in ancient Greece was a gift bestowed, and not a development. He who was so unlucky as to be born ill-favored must pass his days under the shadow of the curse; no matter how noble the heart that beat within the imperfectly formed physique.

Spartan valor did something toward the mollification of this baneful idea, but never wholly eradicated it. Modern philosophy reverses the doctrine, and makes homeliness, or rather plainess, the handmaiden of uprightness. At this age of the superabundance of ornamental embellishments, perhaps the modern device is more nearly correct, since "beauty unadorned is adorned the most," and anything that bears touches of the Omnipotent Hand possesses some characteristics worthy of admiration. All beauty is divided into two classes — natural and artificial. Devotees to each have claimed the superiority of the one over the other. Art has reached a height undreamed of by the masters of antiquity; but as all art is but an imitation of nature, we may logically infer that the copy can never equal the real in point of excellence. In the absence of the

real, the substitute may answer as well or better than the reality, but it is of the intrinsic value of each that we speak.

Where the natural in beauty is lacking, it has become an universal obligation to supply by artificial means the deficiency, for, at no period earlier than now, has the beautiful become more of a necessity to our existence. Without that which is pleasing to the higher senses, we would become barbarous and degenerated, reduced to the level of our primitive ancestors in their uncultivated state.

Rob us of the apparently needless song of birds, the kaleidoscopic sky, the gaily-decked clothing of field and woodland, the music of the spheres, the panorama of the universe, as it sweeps in lines of beauty to the song of the morning stars ; rob us, I repeat, of all in nature and humanity that is entrancing to the sense of admiration, and life, as far as its present enjoyment is concerned, would not be worth living. But let us see in everything a trace of the Infinite, the symmetry and grace of every object fashioned by the hand that moulded the most minute of His creations, and life will become to us a wonderland and a museum, inviting us ever to new fields of exploration, and leading us onward and upward, beyond the seen and temporal, toward the spiritual and supernal.

Natural beauty subdivides itself into beauty of Nature and physical beauty. We shall speak first of the endowments of Nature, — not physical. Nature is boldly suggestive. The earth need not have been made picturesque as she is. The useful only in vegetable and mineral creations need to have been formed.

> "God might have made the earth bring forth
> Enough for great and small,
> Without a flower at all."

Mankind might have flourished as well on level plains as on terraced woodland. The ever-changing variety of natural scenery is not necessary to either comfort or life, *i. e.*, man could have lived without the majestic ocean, the towering mountain, or the trellised windows of heaven.

But not so the Creator's design. He cradled the mighty deep in the loving arms of Mother Earth. He pinioned the rock-bound continents to their places with the Rockies, the Alps and the Himalayas; He swept his beneficient hand over hill and dale and the carpeted, ornamented and lovely home of man sprang into existence. The fields blossomed in multiform hues, animal life attired itself in holiday colors and the tinted bow of promise spanned heaven's dome. All Nature smiled her sweetest smile and the Almighty saw that it was good. God intended the world to be beautiful, but he did not intend to leave man the progressive creature that he is, without an opportunity to exert his God-given powers.

The first man was given Eden to keep it and to dress it. Even before the fall, man was given something to do. The hand of Nature was lavish but not universally so. All landscapes were not equally favored and each could be improved by cultivation. Seed bearing vegetation made it possible for man to follow Nature's suggestion. Adam, after the expulsion, had memories of Paradise to draw upon when fitting up his later home, and we may infer, he imitated largely the scenes he left behind him. It becomes the duty of every possessor of a home to make his place of residence attractive — to copy the first Eden if Nature has not done so for him. Home decoration is a subject that we cannot lightly pass over. It is a great moral principle that should be inculcated by the head of every household and should rank next in importance to the health and comfort of the family. It is the foundation stone of order, ambition and æsthetics in the body politic and is a branch of education not to be neglected.

In the department of horticulture, there is a broad field for the exercise of our decorative tastes and no branch of ornamental resources admits of more economic development. The poorest home can afford a pot of graceful ivy to twine across the cornice or around a picture. On the window ledge may bloom continually some little flowering plant, that will awaken in the minds of the growing young inmates of that family a reverence for the beautiful.

Upon the premises of every country homestead there may be the well-kept lawn, small, perhaps, but inviting, and a little nook reserved for the flower-garden. The trees and shrubbery should be kept trimmed, the buildings neat and in good repair. It is astonishing what a change in appearance a little trouble and pains will accomplish.

In our cities there are equal opportunities for cheerful home-making. Cut off from much that by nature tends towards making an attractive home, the city resident has to resort more to ingenuity than does his rural neighbor. Order, cleanliness and taste, however, will go as far in city or town toward beautifying the exterior and interior of the home as in more secluded spots. Children will take an interest in home decoration that will astonish any parent who will take the pains to develop such a taste in the household, and these same children will assume much of the care and work necessary to the maintenance of decorative objects in the home, if they be properly trained.

Such rearing will tend to bind the hearts of the family to the hearthstone, and no gilded or decorated place of amusement will ever equal in attraction the palace of childhood.

What in early life do we love to dwell on most? Not the long day's confinement indoors, at school or at home tasks, not the slight drudgery nor any of the unpleasantnesses of childhood; but the

happy hours in field and dale where all nature smiled and glad earth echoed in return.

How clearly we remember the honeysuckle that grew at mother's window and the climbing rose vine that smothered in its embrace the old supports of the piazza. "The orchard, the meadow, the deep tangled wildwood" are all dear in the recollections of childhood. Pity those who have no sweet and tender remembrances of an attractive, though it may have been an humble, home.

May we not then seek to cultivate within our own domicile that uplifting, ennobling spirit of æsthetics, not the modern idea of tha art, but the broader term that when assimilated, invigorates the soul and leads our thoughts and minds upward toward the Author of all things beautiful. Then may our husbands and children rise up and call us blessed because of the purity and gentleness with which we sanctified our households and caused to pervade their atmosphere that breath of paradise which makes heaven below indeed the "retreat of the heart."

Where our love for the beautiful leads to extravagance or prodigality, is a point that can be decided only by the means of the individual concerned. Certain it is more latitude is allowed us in this direction than in many other so-called dispensable expenditures.

"The heavens declare the glory of God, and the firmament showeth forth his handiwork." The mountains breathe forth from their lofty turrets his praise, and the brooklet bathes the feet of the little hills to the gentle music of adoration. All Nature sings continually of love and beauty, and decks herself in vernal, autumnal and ermine robes, consecutively, that she may appear never in monotonous costume to the Author of her being. If Nature, untutored and irresponsible Nature, thus exists as a living example of Divine appreciation, what shall we say of humanity, endowed as it is with all the grace of mind, character and physical perfection?

The human being naturally adores the beautiful in exterior, but does it seek to express its admiration of divinely-bestowed gifts, by cultivating within itself characteristics worthy of approval? Within every human creature lies that power.

The human countenance, no matter how plain or unprepossessing it may be in repose, when animated by a pure, lofty and lovely spirit within, is beautiful. There is something so awe-inspiring in the fact that man is created in the image of his Maker that the human form, no matter how contorted by deformity or disease, when considered as bearing the impress of the Almighty, is robbed of all repulsiveness.

Good health is the monitor of physical comeliness. Only in the individual, whose system is in the full vigor of activity, do we find real personal attractiveness. Imitations of a healthy physique or "make up," are always detected, yet it is the duty of each to stay as

far as possible, the ravages of Time. Care of the health, tidiness and cheerfulness go far toward the preservation of youthful appearances. Assumption of characteristics, belonging to the tender age, however, is revolting in the extreme, yet adaptation of one's self to society of varying age, prevents an over-deep impression of the stamp of years. Genuine prepossessing qualities, however, center not so much in grace of form and feature, as in the symmetry of the soul.

It has been said "the eyes are the windows of the soul." The time is coming wherein the physiognomy shall be the true exponent of character. Not that humanity now does not stamp upon the face the real self, but, in the future, men shall have studied each other and self more, so that without word or warning, we may read our fellow man.

"Would'st thou know thyself,
In others' self, discern;
Would'st thou others know,
Read thyself and learn."

Self knowledge is by far the highest type of knowledge, because self examination is inter-woven with destiny. When we consider the mysterious human mechanism, we are lost in admiration. Man never tires of studying self. It is the fascination of the work that will ever keep pushing the investigation and thus enlarge the range of self-acquaintance.

Love of knowledge is fostered by love for the beautiful. The scientist would never undergo the toils and sacrifices of his calling, were it not for the satisfaction of feasting his curious appetite upon the hidden of creation. The musician adores music, the artist is devoted to art, the professional is charmed by his profession. Success is the reward of the devotee. But in no department of the unrevealed do we find so entrancing a study as that of mind and spirit — the animating forces of creation. All our powers of admiration are drawn out upon the inexplicable ungovernable *ego*. It has been written: "What is man that thou art mindful of him." What is a grain of sand that it should exist? Nothing, except that in the aggregate it becometh a mighty planet wherein God dwells. What is man? An atom in the sea of humanity, but God in his essence. If there is anything for which humanity can continually thank its author, it is for life — for all that life makes possible. Instead of being a mere machine of organic matter, we are the thoughtful, the intelligent beings; we are with all the possibilities and privileges of an immortal existence. Behold what a wonder is man? Nothing lower than God and the celestial beings calls forth such admiration as does man.

Before him Nature yields her loveliest gifts and acknowledges his dominion upon land and upon sea. The windows of heaven pour

out upon him their choicest blessings and to him is granted the friendship and brotherhood of the King of kings. Man is God's noblest work. In him is centered all that can awaken within us the reverent.

But the question arises. What is it in man that so absorbs and transfixes us? Not his comliness of person, — though that were enough — but that deeper, nobler attraction, his cultivated mind, towards a pure, refined soul, an admiring world gravitates. As remarked previously, spirit study is the theme of the age. It is the magnet of present thought. The secret of soul nobility is receiving the latest scientific investigation. It is the problem of the nineteenth century.

The perishability of the beautiful, creates a pang with every admiring emotion. When we contemplate beauty that is born to fade, a sigh of regret escapes with every exhalation of silent applause. Music however intoxicating, must cease; scenes however entrancing, must vanish; physical charms however pleasing, must yield to change. But beauty of character is enduring.

> "You may break, you may shatter the vase if you will,
> But the scent of the roses will hang round it still."

True beauty belongs to man and is within. It is a development and not a gift. Its accession lies within the reach of every rational being.

WESTERN HORTICULTURE AND HORTICULTURISTS — A REMINISCENCE.

BY THOS. GREGG, HAMILTON.

An octogenarian, who has resided for more than half a century in the State of Illinois, should have a far greater knowledge of horticulture and horticulturists of the west than the writer of these lines claims to have. In his early days, in a mid-western state, horticulture was in its infancy, and, like most farmer boys, he knew little more of the art than to plow and hoe corn.

Apple orchards were common even at a much earlier day in Ohio and other Western States — many of them consisting mostly of seedling trees; yet, grafted apples were not uncommon. Seedling peaches grew well in Central Ohio, and the tree was much longer lived than now. Of budded sorts, he remembers none in those early days, and of grafted apples, he calls to mind most conspicuously the Bellflower and Pennock — both of which grew and bore well and were favorites in the orchards of his neighborhood. There were doubtless other kinds, not now recollected. Of insect depredators, he knew nothing. He remembers seeing an occasional worm in peaches, presumably the offspring of the curculio; though of the life

history of the "Little Turk," he was as ignorant as he was of King Solomon's mines, or the the whereabouts of the Lost Pleiade. And his knowledge of the life, character and busy labors of the codling moth, and all the other tribes of creeping things, that make a fruit-grower's life miserable, was equally extensive.

The growing and production of small fruits, by transplanting and cultivation, had not yet begun. Blackberries and raspberries were known to grow in the woods and neglected fence rows, and he who had most of them was regarded as the laziest man and producer of the poorest farm crops. Strawberries, too, grew in the meadows, but no one — so far as now remembered — thought of cultivating them, much less of originating new varieties of these or, indeed, of any of the small fruits. The first man he ever knew to grow strawberries in his garden, and to cultivate and care for them, was an Englishman who resided near the village, about the years 1828 or 1830, and who had a patch of about two square rods in extent. The fruit was rather superior in size to those usually found wild; but whether they had been transplanted from the meadows or produced from seed, he never learned. The young people would go out there and eat of these strawberries, regarding the man as a crank for transplanting them to his garden, when he could have them in the meadows free of cost and labor. Possibly others at that early day, unknown to the writer, were similarly engaged. At what period Nicholas Longworth, of Cincinnati, first began the cultivation and propagation of this and other small fruits, I am unable to say. I had spent several years of early manhood about my native place, and had emigrated west in 1836, before I heard of Longworth's strawberries.

It would be interesting to inquire in what year and by whom the small fruits were first grown, cultivated and propagated in the State of Illinois,— certainly, I think, in the State, for I doubt if such a thing had been practiced anywhere within its limits as a territory. Probably, gentlemen present at this meeting can enlighten us on this point; or, perhaps, the files of the old *American Farmer*, the *Genesee Farmer*, *Albany Cultivator*, or the earliest journals in the West could inform us. There are, unfortunately, few of these to be found. Apples and pears were grown in Illinois perhaps about as early as anywhere else in America, having been brought by the early French settlers. Rev. John M. Peck declared, more than half a century ago, that he had, thirty years previously, eaten luscious fruit from the second generation of those "glorious old trees" planted about Kaskaskia and Cahokia in "Egypt." Unfortunately, all those early writers use the term "fruits" in mentioning these things. They also use the term "trees," which leads us to conclude that they wrote of orchard fruits alone,— mostly apples and pears. Dr. John A. Kennicott, also, in referring to the early fruits of Illinois (as

quoted by Elliott), says nothing about small fruits, leaving us to infer that our early settlers were beholden to the wild grapes, strawberries, raspberries and blackberries,— for all of these they were permitted to enjoy.

Kirtland, Longworth, Ernst, Worder, in Ohio, and Kennicott and a host of other later laborers in Illinois, may be regarded as the pioneers of horticulture in this State, to whose labors and zeal we of the present generation owe most of our knowledge.

What was the earliest of the horticultural journals in that vast empire, once known as the Northwest Territory, I cannot now determine, or where, or in what years issued: but our own *Prairie Farmer*, at Chicago, is certainly one of the pioneers of the class west of the Wabash and the Lakes. The fact is well remembered when John S. Wright and J. Ambrose Wight (both of whose names are often spelled as Wright), pioneer editors in Illinois, first ushered their journal to the public in the village of Chicago,— the short-lived predecessor of the *Prairie Farmer*, about fifty years ago. Since that day scores and scores of practical horticulturists have contributed of their labors and experiences to its pages, thus greatly aiding in the growth and beauty and grandeur of this great State.

I would be glad, had I the means immediately at hand, to run over those pages and cite the names of the most prominent of these. Many of them have rested from their labors and gone to their reward. Their memories and works still remain to cheer and urge us on to greater effort. Illinois, the Great West, the whole country, can not too often gratefully honor the names of Worder, Kennicott, Hull, Flagg, Harkness, Bryant, Overman, Dunlap and many others who have gone before, making clearer, better and brighter the path for us to follow.

A committee, consisting of Messrs. F. I. Mann, F. Cadwell, F. J. Heinl, were appointed on Final Resolutions.

EVENING SESSION.

Music — "Don't Leave the Farm."

RURAL ADORNMENTS.

BY MARY H. WILLIAMSON, CHAMPAIGN.

Everything must have a use for the man on his eighty, hundred and sixty, or two hundred and forty acres. Too often the useful kitchen garden is neglected, because there are no visible dollars and cents realized from it, and useful things are narrowed down to

necessary things. The man who does this is the one who cries down the country and is saving on every corner, as he thinks, to make enough to shortly rent the farm and move to town. This tendency is the bane of our country.

Ride over our beautiful prairies and you find a large per cent. of unimproved, bare-looking farms, with a small house, wretched barn, tumbled-down yard fences, land worth thirty or forty dollars an acre; the verdict comes at once, a rented farm, or a farmer tired of the country. Or another condition may prevail. The boys are all grown up and gone in business in the cities, and the old people can't operate the farm alone, so are obliged to rent. These are stubborn facts, and we, as patriotic citizens, deplore them as detrimental to our free institutions, for we are preëminently an agricultural people. When the art of agriculture languishes, our government is weakened. Now, there is no sovereign balm for this tendency, but it must be met by thinking people and counteracted by every possible means.

Education, in its widest sense, covers the whole ground, but the many branches of it should be considered separately. The old-time idea that any one can farm is fast losing ground. The farmer is fitted for his work by a training no less careful and rigid than the artisan or the mechanic.

But I have to speak of a very small, though m ıc lected part of his education, the education of his æsthetic nature, that he may have a desire and know how to decorate his home. Why should his home be decorated? To enhance the value of the property; this applies to any property, but is overlooked more in the rural districts than in cities. Every mother's son before me will readily concede that even as he rides along on the train, he is mentally forming an estimate of the worth of the property he sees by its appearance, and a neat lawn makes him conclude that the place is desirable; should there be several pleasant, home-like looking places, he decides that is the locality in which to invest. When candidly asked the reason for his decision, he can give none of the details of drainage, health or social qualities of the locality, but he formed his estimate wholly from appearances. Adornments that truly adorn, always raise the value of any article by making it desirable. Let "beauty unadorned" be not forgotten in our haste to adorn.

Most of all, we should adorn to make the farm home attractive for one and all. Children will not naturally leave home when there is any attraction there for them whatever. Alas! alas! we mourn the departure of our country boys to the dusty, hurrying, tempting city, but sit with folded hands when asked to stem the tide.

Again, I say, make the rural home attractive. Why? for the reason that any home should be attractive, that it may be loved and

cherished as home, that the "cankering care" may be forgotten. What we *see* has a great influence on our hearts and minds, more by far than we realize. God's "book of nature" is none the less His than His written revealed word. Its sweet soothing parts draw us nearer Him as we study them. Its mighty and wonderful things lead us to say, "What is man, that thou art mindful of him?" "The heavens declare the glory of God, the firmament showeth his handiwork." "O Lord how excellent is Thy name in all the earth, how manifold are thy works." "In wisdom hast Thou made them all; the earth is full of Thy wisdom." After all is not a realization of God, His glory and strength the end of all human existence? With so great and necessary an object before us, we ask *how* shall this be accomplished

I will not describe a place like Mr. Dunham's, of Percheron farm, with its forty acres devoted to ornamental grounds, with fish ponds, little groves, drives, flower gardens, etc., and a regular gardener. Nor should I go to the other extreme, of the frugal vine covered cottage that poets delight to tell us of, with the kitchen garden about the front door. Nor is it well to begin suggesting until a few general principles are laid down. There may be various reasons why the details of an idea may not be carried out, yet the principle may be entirely practicable.

The intensely practical man, and such most of our successful men are, recognize a certain absurdity in things without a use, he sees — "how beauty underlies, forever-more each form of use." Then let the adornments be made as far as possible by useful things. This principle goes into a great many more things than is generally supposed. Let a certain symmetry and harmony mark the whole; remembering that others' ideas as well as our own are to be considered. In this way no ones aesthetic taste will be displeased. As in music touches of discord are introduced to make the harmony better appreciated, so there must not be so much of a sameness even for the sake of harmony, as to make the scene tiresome.

The location of buildings is a momentous question. On our prairies there is little chance of much natural selection. A small prominence here in preference to a slough there is the sum of it. The trouble comes in the management of the building for convenience and economy of sheds and roofing. The substantial house in the foreground, with the barns far enough away and out of range of the house, that it may be saved from unpleasant consequences of odor or health; the orchards and groves to the north and west for wind-breaks for house and barns; the door-yard and barn-lots neatly fenced. Do not understand me that the yard should be filled with flower beds. On the contrary, a neatly-kept, shady lawn, is much to be preferred to one ragged and filled with illy-kept flower beds.

Have the grand old annuals, by all means, to the side or in the

back ground. A rose-hedge of hardy varieties, the rich velvet George IV's, as we used to call them; the sweet scented damask, the early pink Junes, the Prairie Queen and hardy white across to hide the back door and unsightly objects that are sure to be there. An old tree covered with coral honeysuckle makes a delight all summer. A sweet-scented honeysuckle on the south of the house will live in this climate if the precaution is taken to have the trellis hinged, that it may be laid down during winter. The wisteria or trumpet vine will shade the well or the south porch. The red Japonica, snowball and lilacs will form another pretty group on the other side from the rose hedge.

Then trees — elms first, in the middle and last, sugar or hard maples, box-elder, mulberry, white and black walnut, and tulip trees where they are desired as permanent; but for quick shade, close to the house, soft maples, cherries, and cotton-woods planted along the drives, the walks to the gate and woodhouse save the weary house-wife an aching head many a day by keeping her in the shade. Box-elders around the water-tanks, keep the water cool, and the cattle stay around them and drink more water than they otherwise would. Above all things, or, perhaps, I should say beneath, have grass, a turf; with very little trouble the corners can be filled with grass instead of unsightly weeds. Our turf is certainly the crowning glory of our grand valley.

I have aimed to suggest only things that may be done without taking much attention during the busy season and yet will have the desired effect. Pardon me, if I have spoken too much in detail, but I have in my mind's eye, what to me is the most beautiful picture in the world, and when you say farm home, I see it colored with all the brightness and glory of childhood's pictures, the sweetest, dearest place on earth. I am sure that my love of farm life grew from my early education on a well-arranged, prettily-adorned country home. My theory is not one thought out in a city hammock, but one resulting from practical experience in my own life.

The evening being very warm the meeting adjourned till 9:30 A. M.

THURSDAY MORNING.

The meeting was called to order, and Rev. John Allender offered prayer.

The first on the programme was the election of officers for the ensuing year, which resulted as follows:

President — C. N. Dennis, Hamilton.

First Vice President — F. I. Mann, Gilman.

Second Vice President — H. M. Morris, Rantoul.

Third Vice President —F. Cadwell, Griggsville.

Secretary — A. C. Hammond, Warsaw.

Assistant Secretary — Miss Bessie Nash, Warsaw.

Treasurer — Frank Heinl, Jacksonville.

A motion was carried to leave the location of the next meeting in the hands of the Executive Board.

WHAT WE EAT.

BY DR. LYMAN HALL, CHAMPAIGN.

As we look over the diet of mankind in different ages and various races, we see some queer things that have been used as food: things that appear revolting to our civilization, and we turn from them with an allied feeling as if under the influence of ipecac. Yet, if we compare these foods with some of our modern foods, we will find they are far less baneful to health than much of the food that is in daily use by us who boast of a civilization just a little more refined than any other nation on this green earth.

The object of this paper is to show by comparison what we eat, and how indulgent we are as a people to tolerate the vile impositions that are practiced upon us as consumers of food, dealt out in the shambles and markets through our land. Many of these vile concoctions are sanctioned by the patent office granting patents on their manufacture, so they have the sanction of law enforced by our tribunals as being a legitimate business.

Vegetables, from the earliest history of our race, have been raised and cultivated for food. They would not grow to perfection in a wild, uncultivated state. Man soon learned, when driven from his beautiful Garden of Eden, he must gain his food by the sweat of his face. Most all creeping things on the earth, fish in the streams and seas were his for food. The birds of the air and beasts

of the fields were subject to supply his wants. When he captured them for food, he knew just what he had to form into a toothsome dish, flavored with herbs and vegetables from his garden.

He, man, soon became a cultivator of fruits, but many kinds, until very recent date, were gathered where they grew as a spontaneous gift of nature. As man became civilized his wants increased. The Esquimaux, who live along the ice-bound seas of the Arctic land, have no fruit, agriculture, horticulture, or grazing land to enjoy. The very climate in which they live forbids a fruit and vegetable diet. The rigor of their climate demands a food of almost pure carbon, as found in the blubber of the whale, and he eats a tallow candle with as keen a relish as one of us would a dish of strawberries well covered with sugar and cream.

As we go toward the equator man requires a less oily food, and lives on a vegetable and fruit diet. Nature seems to have made all things to contribute to our good, as vegetables and fruits grow to perfection where the skilled horticulturist applies his hand. Then may not man rejoice, and exclaim with the great law-giver: "And God saw that all was good."

This paper is intended to show the adulteration and frauds that are practiced by those who work up the raw material for the consumer to use as food. As fruit and vegetable growers we cannot adulterate, our fruit has got to be just what it represents itself to be. True the railroads bill our tomatoes as fruit, yet they are a vegetable all the same. The railroads make more money for transportation by listing them as fruit in place of a vegetable, and the public is so far swindled. Whatever vegetables or fruits we raise and put on the market it shows for itself that we are compelled to be honest. We may scrimp a little in measure, but have to do it so everybody knows it, and the public only pay for what they buy.

There is an ancient Laten proverb which means, if a thing is false in one particular it is false in every way and to be treated with entire distrust. This applies most justly and deservedly to the false and fraudulent substitute for butter, which go partly under the names of oleomargarine, butterine, suine, olioine, and other trade names, but which really appear in consumption as butter, and also in the guise of butter fat, or cream in cheese. This primary fraud is backed up by a variety of others; just as it is the usual way with adulteration, that they themselves become adulterated, so these spurious butters are made up of a great variety of vile stuffs which renders them not only unwholesome, but positively poisonous.

When these butter substitutes are made from leaf lard of the hog or the suet of beef, and these animals healthy when slaughtered, there is no objection to their being used as food. They are just as wholesome a food as any other part of the flesh, but they should be sold for just what they are, suet and lard butter. The dairy interest

should recognize them as legitimate competition, and should not look upon these butterine foods that may be received and looked upon by the public with favor as any special cause of complaint. The dairymen should like men true to their calling pursued their legitimate business without dabbling in swine or oleomargarine.

Let us look a little into the history of this nefarious business. When Paris was beleagured by the German army in 1870, the inhabitants were put to great straits for some necessary articles of food. butter was one of the most important. A French chemist then invented oleomargarine as a substitute, and this animal grease was gladly accepted as a makeshift for the absent butter and supplied the craving of nature for a fatty matter to carry on the function of nature. Very quickly the new manufacture appeared on this side of the water, and was exhibited as a novelty at the annual exhibition of the American Institute at New York in the winter of 1873. By some it was denounced at that time as a vile stuff and would be a dangerous enemy to the dairy interests, and it was foreseen and it was predicted exactly what has since occured, viz: being a simulated article, appearing under false pretenses, it would soon be degraded by cheaper adulterations and substitutes into articles of food which would be injurious to the public interest and health. A short time only elapsed before butter and cheese were so extensively made from tallow, that the price of good beef fat and suet advanced so much as to prohibit the manufacture.

Perhaps the poet Gray realized how much real pain was covered up in ignorance when he sung —

To each his suffering; all are men
Condemned alike to groan,
The tender for another's pain,
Th' unfeeling for his own.
Yet ah; why should they know their fate,
Since sorrow never comes too late.
And happiness to swiftly flies?
Thought would destroy their paradise
No more; where ignorane is bliss
'Tis folly to be wise.

It is to be hoped the present agitation of food adulteration may go on, until there is not only a radical stop put to food adulteration, but also a stop put to making mixed wines, brandies, beers, etc. The Prohibitionists are engaged in a noble cause. They should not stop at the fabrication of intoxicants, but should attack the man of sin wherever wrong is done. The strong hook of steel should be broken in food adulteration as well as dram-drinking.

To the horticulturist, it is a pleasing thought to know his dish of strawberries or raspberries, and cream from his pet Jersey are not

adulterated. But ignorance is bliss when he knows not that his granulated sugar is mixed with gluco, made from old cotton shirts, his butter and cheese are not made from cholera hogs and rancid oils, full of vegetable and mineral poisons. It may be folly to be wise, when it might cause hunger.

AFTERNOON SESSION.

Song — By Miss Grace Beecher.

RESOLUTION

BY H. J. DUNLAP.

WHEREAS, Death has removed from his sphere of usefulness in this life, Milo Barnard, President of the Illinois State Horticultural Society, and feeling that his work in the line of horticulture is worthy of more than a mere passing notice, and being desirous of testifying to his worth, therefore,

Resolved, That in his death the cause of horticulture has sustained a great loss and one not easy to repair; that his enthusiasm in the cause is is worthy of imitation and his industry in examining thoroughly every subject connected with horticulture an example which all horticulturists would do well to follow.

Resolved, Further that we tender to the family of our deceased friend and brother in horticulture, our heartfelt sympathy in their bereavment.

The resolution was adopted.

OUR GIRLS.

BY MRS. H. M. DUNLAP, OF SAVOY.

To us, of rural life and pursuits, what subject is of more importance or interest than the training and rearing of our girls. It should employ our thoughts and time as much as any of the perplexing topics of horticulture.

Are we each and everyone doing all we can to help make true, pure lives of the young surrounding us, and within our homes? It requires a forgetfulness of one's self, patience, and withal a love for them, for our influence to be of permanent and lasting effect. We become to much absorbed with our own special round of duties (or supposed ones), to think we have time to spend in that direction. We leave them too much to seek and find their own amusements, their companions, and books to be read. When from one illy-chosen friend or playmate, the influence of which may be felt through life, or the reading of one book of a trashy nature, tastes may be formed that will require many efforts to overcome.

No place has so many advantages for forming correct, useful characters as the country, if under proper influences. Many of the best and most influential women of to-day spent the early years of their lives as rural lasses, subject to all the environments and influences which such a life means.

But still much more could be done than now is, but how are we to do it? A question that many times perplexes the brains of the father and mother that wishes to do all in their power for home and children.

First, make a home in every sense of the word. It is not necessary to have an abundance of this world's goods to do that, for some of our largest houses are entirely void of the home feeling. Love to God and man, contented, cheerful, willing hearts, together with neatness, order and cleanliness, are a few of the requisites to make a home, whether of great or small dimensions.

Now to acquire a happy medium in the government and management of our girls. If there were more home pleasures and not so much seeking abroad for that which is not allowed or tolerated at home, would it not be better? Don't forget that we were once children. Provide good, healthy amusements, or else those of objectionable character will be sought. It seems to me it is more essential, or equally as much so, for rural fathers and mothers to have a deep interest in, and personal supervision of, that part of their children's early years, which conduces so much to their happiness.

I once heard a young girl say: "If papa would only provide me with a horse and buggy, so that I could sometimes go without bothering some one to take me, or having to wait until it was convenient for them to do so, I would just as soon live in the country as in town." That father is abundantly able to provide the family horse, and is he careless or thoughtless about it, or is it because he thinks she has enough pleasure already that she is denied this?

I do wish the husband and father would stop and think. Would he like to always be obliged to wait until the good woman of the house could find time, or wait her convenience, to take him some place, before he could go? Women enjoy an occasional feeling of independence (speaking from personal experience) very much, and now, dear, good man, whenever it is in your power to contribute such pleasure to the members of your household, provide the good family horse among your horses, and I don't believe you will regret it.

Early teach the girls the care, management and use, not abuse, of the horse. O, the importance of early training in regard to kindness to animals. More depends on that than, perhaps, we realize. Don't give a child even a cat or dog, or pet of any kind to amuse

itself by abusing the animal, for when doing so you are fostering a propensity for cruelty to a greater or less degree.

I find when children request certain pleasures and means of amusement, it is best to stop and weigh the subject well before we give the final yes or no. Never deny them pleasures when there is no reason why they should not have them. "Amusements are the means of rest, the power to recreate the mind and body, to refresh the weary," and as all will have them, furnish those as near as possible that will instruct and elevate as well as amuse.

In providing amusements we will find no easy task. The selfishness that all of us possess to do only those things which please us most, should not enter into it at all, because our own wishes, desires and plans will have to be thwarted many times if good results are obtained from the amusements granted. We must feel the necessity and act upon it, of making our rural homes pleasant and attractive, and the life of our rural girl not a burden, but a pleasure, if we expect them to love it, and not constantly be striving to find a means of escaping from the acquired dislike of such a life.

"Learn to live, and live to learn,
Ignorance like a fire doth burn;
Little tasks make large return.

"Toil when willing, groweth less.
'Always play' may seem to bless,
Yet the end is weariness."

How true the words of the poet: "We must early begin to impress them with the thought that 'always play' does bring weariness, lost opportunities for good, habits acquired of objectionable character in making a true girl or woman."

The words of Dr. Vincent in his lecture on "The Boy," ring in my ears many times when I wish to defer some needed training of the little ones under my care. The question was asked him when the training of a child should begin? His answer, he always said, was "the day they are born," meaning, we could not commence too young. Such seems, especially, to be the case, if we wish to train them in habits of industry and usefulness We can not leave them until ten or twelve years of age and then think the good habits will come to them spontaneously and without effort.

It is a recognized fact that there are few cases known to the world where a man has become prominent in any calling who had not a superior woman for his mother. The importance, then, of proper training and education of our girls. Education! How many different ideas of what that word means. In its broadest and fullest sense it implies the cultivation and development of all the faculties, mental and physical, which will make a perfect man or woman. It is not always those that can speak in the greatest number of

languages, write the best, detect the greatest number of grammatical errors, that have the truest education and the one most needed.

True education is that which will fit any one to occupy their allotted place in the world, and accomplish the most good to their fellow-men.

It is our self-made men and women of good home education that make their mark and fame in this world; not those reared to have every wish gratified and that to labor is a disgrace.

Our rural girls, many times, do not have the college advantages and opportunities for accomplishments that our city girls have; but the home education should be such as to make truly good and useful girls, to instill within them a desire for knowledge, so that all opportunities presented may be grasped and improved.

Now, while we educate the intellectual, moral and spiritual faculties, one other thing of great importance must not be neglected, that is, the physical education. Of comparatively little value are all others unless we possess the latter. Teach them that good health is to be valued above all things, that a sickly, complaining girl can not accomplish the good, or be of as much use and pleasure in the home, as the healthy, robust, happy one.

One careless act may ruin health — then early imbue them with the necessity of special care and attention to it. It is not necessary to adopt the extremes in common sense dress, but I do contend that more common sense must be used in dress before we will have healthier, happier, better wives and mothers.

Healthy, useful employments and amusements should be encouraged, and think no time wasted that is spent in gaining or keeping health. "The soul of childhood is pure white, and will take any color that touches it, or be stained by any impure thing." Oh, how my heart fills to overflowing as I feel the responsibility and the need of a good, pure life to train and rear the little ones God has placed in our home. May we fathers and mothers look to a higher power for help and guidance in this great work of education and training our girls to a life of usefulness, and a developing of the powers within for good.

PROGRESS IN HORTICULTURE.

Mr. Jonathan Periam, of the *Prairie Farmer*, spoke extemporaneously. A synopsis is as follows:

Who among the masses of civilized communities appreciate the importance of horticulture, or its true relation to agriculture? Who among all these understand how short a time it is since agriculture was first taught to "speak English?" Who among us appreciate the grand work that Evelyn did, in the reign of Charles

I, of England, to raise science from mere barbarian art toward the realm of science? Evelyn may be called the father of horticulture. A man of the highest culture, the friend of his sovereign, differing from him as he did in politics, but nevertheless upheld by the sovereign as against his enemies, he founded what constitutes the horticulture of to-day, as well as landscape art in the gardens that yet exist in England.

From England horticulture came to the United States. The first great mind was Andrew J. Downing, and his work was of trees and tree-planting, as well as landscape art. He, it was, who first taught Americans the true idea of making art correspond with nature. That was a great step in advance. It is not necessary to elaborate; enough that I state certain salient points.

Let us take the cultivation of fruits. Fifty years ago there were comparatively few first-rate fruits known, as against the large number of varieties that we have to-day. This fact alone may be used to show the progress of horticulture within this comparatively short time. Horticulture has really made progress, keeping the art fully abreast of other inventions in civilized art and science. Curiously enough we are coming back to the old-fashioned idea that we left years ago, and are double-working certain fruits, realizing, as we do (and which is now borne out by scientific investigations), that whether or not the graft influences the stock, the stock certainly does influence the graft.

We have the evidence of this all around us, notably in the fact that our best pomologists cannot always identify a fruit with certainty, either by its color or its texture. They can come pretty nearly to it by the stem, its indentation and the calyx end of the fruit, and measurably so by the general contour of the fruit. Who shall then say that horticulture has not made as much progress within the last fifty years — nay, as much progress within the last ten years — as has been made in other departments of human industry.

Agriculture, in its broad sense, includes all that comes within the province of the tiller of the soil — the raising of grain, the breeding, feeding and fattening of animals, pomology, aboriculture, vegetable and flower gardening, and landscape gardening. Horticulture, nevertheless, is what may be called the fine art of agriculture, and, so far as money is concerned, or, rather, the profits on the investment, it has always been ahead of the man who has been engaged in mere husbandry. As my good old friend Minier would say: "It is probably the religion of agriculture." And this probably accounts for the fact that the average horticulturist is a very religious man; and, I am happy to say, that I stand in the same category, although I may not be so Christian a man as I ought.

Fifty years ago a good many honest and really intelligent men

believed in planting in the "moon." They believed in signs, but, nevertheless, the fellows that went by the signs generally ran off at a tangent, although they did not connect signs with tangents. We have learned to plant in the earth, and the earth has never yet been known to refuse to make a fair compensation for honest and intelligent labor bestowed.

Now I guess I had better tell you a little story. I recollect, some years ago, receiving, in my editorial capacity, a letter from a farmer's wife, living not a thousand miles from Dwight, Ill. I will not give her name, for it might make her husband feel badly. He has experienced a change of heart in his later days. Now this wife wrote that she rose at 4:30 A.M., skimmed the milk, fed the chickens, had thirty-three young ones — not children, but chickens — and one hundred and fifty eggs nearly ready to hatch, in addition to getting breakfast, which was eaten at six. Her sister had to drop corn from the planter. She worked for her board, poor thing; and it was also arranged that the wife should go to the field at ten. So the baby was dressed, the dishes washed, the beds made, the floor mopped, the sitting-hens fed, chickens killed and prepared for dinner (when the good man would allow "sich"), cookies baked, the baby put to sleep, and the dinner arranged ready for twelve o'clock. She then took the lunch and went to the field to relieve her sister.

After dinner there was the usual routine work to do. The good wife had a loving for flowers. She watered the plants, and did a lot of garden work to keep the household in vegetables (and this is strictly horticulture). This, perhaps, occupied her time until three o'clock, and then she went into the field again and dropped corn until night. After supper she milked, fed the chickens, baked bread, ironed, sewed buttons on her husband's shirts, crimped the ruffles on baby's Sunday frock, and what lace she could afford on her best dress, besides other things innumerable. If she happened to have forgotten anything, even to the patching of a garment, there was a time.

Now times have changed since forty years ago, but the application is, that if the average husband had had the average energy of the wife, the children of such couples would now be well on the way to become bloated millionaires. Some of them have. Now perhaps you may think this is a departure from horticulture; but it is not. For did I not get in all about the watering of the plants, which the poor wife had to undertake? Now here is one thing that some to-day have improved upon.

Another "lord of creation" whom I know had allowed his overworked wife to drudge herself to death; at the last moment he bent over her, kissed her and said: "Wait for me, Jenny, on the other shore." "Yes John," she faintly whispered, "but I hope I shall get a good, long, rest waiting — I am so tired."

We as horticulturists, have found out that, as in feeding of animals, we must give plants not merely a single food, but a diversity of food. The finer fruits that we get to-day are the result of not only high fertilization, but of high cultivation, and it is the special province of the progressive horticulturist that he not only feed well, and prune well but to get the best results, he must thin well and thin early. We have learned that in our climate we must not prune to the old-fashioned umbrella shape. Unlike the old idea in England to let in the sun — which now in England they have much modified — we simply seek to prune so that each leaf surface may get a fair modicum of light, but at the same time protect not only the fruits from the glare of the sun, but the body and branches as well. Let this suffice for this phase of the subject. It is too broad to undertake in a single lecture, or a series of them, let alone a simple talk.

We know a great deal more now about the effect of the climate on plants than we used to know. We are now pretty well convinced that it is not the absolute cold of winter that kills, so much as the drying out of the substance of trees and plants by our arid and sweeping winter winds; that the effect of a winter's sun under certain conditions of plant life is inimical. I must let these two illustrations suffice in this direction.

We are coming to understand that in the application of manure to promote the best possible growth, the soil must have more food than the plants can consume. As we know that in the feeding of animals there must be apparent large waste where animals are to be made very fat, in the case of manure the earth holds the excess, if of clay or loam. We have come to understand pretty thoroughly the value of mulch as a conservator of moisture, and more than all the fact that there is no better summer mulch than the tilth held on the surface of the soil by cultivation, as soon as the earth is in working condition after the rain. It forms a most perfect cushion to prevent evaporation at the surface. We have learned that we need not wait for rain in transplanting delicate plants, but leaving a slight depression to be filled with water, when settled away and then drawing the dry earth over, the plants will grow right along without suffering.

We now understand fairly well the true economy of nature in the matter of birds and insects in connection with horticulture; that nature works not for one thing alone; that nature is most conservative in her prodigality.

Thus, what is apparently lost in one way is consumed in another. For instance, plants consume carbonic acid; animals give it off. We now know that horticulture must be a painstaking process; that we must study all science, if we be successful in our business. Thus, a knowledge of chemistry, geology, ornithology, entomology and the other sciences clustering around agriculture, are a great help to the

horticulturist if he would reach the highest plane in the profession: and to reach the highest plane, from a practical standpoint, is to reap the the most money.

SCHOOL-YARD DECORATION.

BY MISS MARY VARNEY, CHAMPAIGN.

Passing our public school edifice a few weeks since, I noticed what a marked contrast its bare surroundings presented in comparison with the adjoining premises. How dreary it looked, towering above an expanse of cinders, straggling evergreens and maples, grass sparsely growing, but the soil very prolific of weeds and plantain. While on either side, in the space enclosed by the walk (on account of their nearness to the door), grew with a sort of sickly life shrubs and bushes, raised chiefly for their branches with which to chastise the unwary urchin who dares disobedience. Though we believe in the sparing-the-rod-spoiling-the-child discipline, we should rather the instruments of torment should be gathered from a different source.

We are not unmindful of the labor and expense devoted to our welfare, yet we should prefer some adornment of the grounds which would add infinitely more to our enjoyment than money expended to to improve our intellects, and we would, perhaps, derive as much benefit from it in the end.

God meant we should enjoy his handiwork, else why was Eden, that beautiful garden where grew and throve every tree good and pleasant to the sight and good for food, "given into man's possession to dress and to keep it? "

From that time till now horticulture has been observed to a considerable extent in every civilized country of the world, and it will always be one of the great factors of our existence, for without it there could scarcely be life.

When Nebuchadnezzar built the hanging gardens of Babylon — one of the wonders of the world — to please his bride, Amytis, who longed for the hills and dales of her native land, little did he think how his name should be sounded down the ages; for plainly he thought while the beautiful is cultivated the lovely ought not to be done away. Even the carving on the golden vessels of the tabernacle was after the pattern of flowers, and the fancy work of the ancient Oriental buildings was in their image.

And He who is called the "Lily of the Valley" and the "Rose of Sharon, fair," admired flowers and often spoke of them in His teachings, and He it was who said: "Consider the lilies how they grow, they toil not, neither do they spin, yet Solomon in all his glory was not arrayed like one of these."

In studying Nature, it, indeed, leads us to Nature's God, who is reflected in His work, which bespeaks His wisdom and power.

Children and youth, spending so much of their time within the school-room walls, need a pleasant play-ground to recreate in, and will amply repay the trouble in decorating it by their more willing diligence in study. The school boy, far from home, views the vines on the school building with a glad expression, as he sees they are the same as clung to his father's house; and the trees, they, too, seem to welcome him, and look so like the landmarks at the dear old home.

A school-yard should be attractive at least; the structure may be grand and stately, teachers logical and learned, the methods classical, yet with unkept grounds, it will be uninviting to the student. There should be plenty of trees and shrubs in the yard for health, comfort and happiness. For health, because the leaves absorb the atmospheric poison and in its stead, produce oxygen, so necessary for freedom from disease; for comfort, to avert the winds and shield from the rays of the sun; for happiness, how it vigorates us to come from a hard morning's study and sit beneath the sheltering limbs of a tree and we gather inspiration from the waving grass-blades, the swaying boughs and the rustling leaves, and the peaceful tranquility soothes our ruffled tempers and recovers our scattered senses, and their calm shade will bring a kindred calm to us. We study botany in our schools and all know a fair knowledge of the science is required before receiving a diploma, but where will we find the object of our study? Not in the school yard, but why not? Children should not grow up blind to nature's beauty, but should learn to watch the buds unfold their hidden secrets day by day. In order that they may appreciate plant life, they should be surrounded by it. If they are inclined to ignore or destroy it, they should be taught otherwise. They should cultivate a love for flowers, they are so pure and innocent they elevate our minds from the turbulent cares of the world; they have a great refining influence over mankind, they appeal to the best sympathies and passions. Poets have written some of their most affecting poems on nature, and to a poetic temperament no theme is more welcome than "The Beauties of Nature." Flowers are used to decorate churches and public buildings, in the bridal chamber, the banqueting hall, to cheer the sick and dying on their restless pillows, and, at last, when done with earth, to lay them among the flowers. What could be more fitting?

"In the cold moist earth we laid her when the forest cast the leaf,
And we wept that one so lovely should have a life so brief;
Yet not unmeet it was that one like that young friend of ours,
So gentle and so beautiful, should perish with the flowers."

Dr. Watts was a great lover of flowers and used to write his hymns under a spreading tree. Bismarck has a passionate fondness

for them. It has been said, those who love flowers are more apt to live upright lives than others. What children are taught in their youth will mould all their future lives, and when plants have such a decided influence for good over their after lives, why not strive to cultivate them about the pupils.

Ornamental trees and flowering shrubs make the best decoration for a school yard as they are not as liable to be injured by the rough games of children, and in the winter they relieve the monotony of the landscape with their bare arms stretching up toward the sky. Have nice turf for them; what if they do trample and wear off the carpet of green, it was made for use. If possible have one or more beds of hardy flowers and some vines, if not afforded for yard let the scholars contribute to the windows, and in the midst of some puzzling primer lesson or torturous geometry they look into the flower faces and imperceptibly take courage. If we would that they appreciate their value more, give them a more prominent place in their daily lives, for tree-planting is so little trouble, estimated with the rich reward it brings, and a few plants will cost but little labor. Let them value nature's true worth, for already,—

> "Full many a flower is born to blush unseen,
> And waste its sweetness on the desert air.
> Full many a gem of purest ray serene,
> The dark unfathomed caves of ocean bear."

ROAD AND STREET HORTICULTURE.

BY PROF. T. J. BURRILL, CHAMPAIGN.

In the early settlement of a country the sole thought given to roads is, and must be, in regard to the requisites and facilities of passage. The needs of the traveler, as such and such only, must be first attended to. Bridges and turnpikes must be made, an escape provided for water, the rough places made smooth and the road-bed itself, where necessary, improved. These things usually cost a good deal of labor, and wise servants of the public will see to it that the prime requisites, and these only of traffic, shall be given first attention. No country can be prosperous without good roads, and other things being equal, the better the roads for wagons the earlier will civilization and society become established in the land, the more profitable and enjoyable the farm and the more thriving the town.

In our part of the country, while the initial cost of road-making is less than common elsewhere, so that, for certain seasons of the year, the passage is easy and pleasant; still there is much room for skilled direction of labor, and abundant use for money in making permanently good our thoroughfares for teaming only. Doubtless there are many who still say nothing else should be considered until

these essentials are fully attained, until brain and brawn are no longer needed for the road as such, that anything like decoration, appealing to the eye, instead of to the foot and the wheel, must be, from necessity, postponed, or even abandoned entirely.

But woe to the country whose people are completely governed by bare material necessity; whose hunger is only that of the stomach; whose taste is limited to that of the tongue; whose ideas are measured solely by dollars, and whose aspirations rise not higher than their physical needs. As a matter of fact there are no such people in our enlightened land, though there certainly is too great a tendency to pooh! pooh! things which appeal mainly to our higher natures,—to the very things which distinguish us from savages and other uncivilized beings. I believe every man and woman, possessed of a fair amount of good sense, resident in Illinois, would enjoy whatever might be added to beautify the homes, the towns and the country landscapes of our fertile commonwealth; but by no means is every one ready, or even artistically able, to directly help in the accomplishment. The cry is: "Oh, yes! that is all right for those who can afford it, for those who have no other use for their time and their money. I have something else to look after." That is, usually, "I" am permitting the material needs and wants to crowd out my contribution to anything higher. Shame on us that we appreciate the hunger of the eye and of our inner sense of beauty, but are too lazy or too much absorbed otherwise to put forth our hand towards satisfying this benificent demand. It is high time we should be aroused to action in this respect, that we should begin to acknowledge the shamefulness of laziness here as we now do in the affairs coupled with buttered bread, and to appreciate the value of art education as we now do that connected with money-getting and political power.

Here, as elsewhere, example is stronger than precept. If one wants to get his neighbors interested in beautifying their own grounds, the surest way to do it is to properly arrange and care for his own. If A wants B to cut the grass in his (B's) door yard, let A see that his own lawn is cleaned and made green and velvety. Often one such example is more contagious than measles. Preaching like this accomplishes little. It is only ventured upon in the hope of stirring to renewed efforts those already alive to the things herein urged. We may provoke one another to good deeds in our horticultural meetings, if we are already harnessed for the work. But we can, one and all, do much more at our homes, if we will lead off in the things desired.

After so long an introduction, the simple precepts I have to offer for the artistic improvements of our streets and roads, may seem meagre and very elementary. But it is easier in such work to overdo upon paper than to keep within the limits of rational accom-

plishment. Leaving out of the account the matters affecting traffic alone, I will speak of but three things connected with the adornment of the highways, viz: grading, grass, trees.

1. Our roads are usually sixty-six feet wide. The streets in towns are commonly not less than sixty feet; except in the main business thoroughfares of cities, no such width is needed for teaming. Commonly twelve to twenty feet for the latter purpose is abundant; of course, provided the road-bed over their space is good.

To secure this last, it is much better, commonly, to expend a given amount of labor upon the narrower space, than to spread this amount over wider stretches. With this narrower publically gravelled space, much more can be done in ornamental improvement. Where grading is necessary, it is already usual to so narrow the road-bed; but it is, also, too common to cut ditches each side, into which one is needfully alert to keep from plumping into a filthy mess of weeds or stagnant water. With the facilities now at hand for tile draining, there is much less excuse for open ditches of any kind, but from the standpoint of appearance, at least, these narrow, deep ditches, so liable to choking close to the turnpike, are an abomination. Earth sufficient for the grade had better be taken from a wide space, gently sloped from top to bottom, and this shallow scooping is often quite sufficient for the purposes of surface drainage. To the eye, it is infinitely superior. Where a deep cut is necessary to take off the water, permanence requires broadly flaring sides. If the earth is not needed for this, then tiling is most economical. For the artistic effects, gentle slopes should be everywhere insisted upon in transverse grading, and no grading all lengthwise is to be countenanced. It may be that there are a few hills within one territory that the practical facilities of travel will require cutting like railroad leveling; but all such work is in Central Illinois, a decided injury to good appearance. It has often seemed to me that practice of this kind must have been in the main imported from other regions where sufficient excuse for the barbarity really existed; from the traffic side itself, it may well be doubted whether it is wise where often indulged in. The exposed clay during wet weather is certainly a poor substitute for the surface soil. A little up-and-down wheeling is no disadvantage to teams, while as a matter of liveliness and variety in appearance, it is an absolute necessity. We may, at the same time, save work and beautiful effect by sparing such grading.

2. With soil so fertile as that we possess, vegetation of some sort is sure to grow upon the unused portions of our thoroughfares, and that luxuriently. Certain weeds, varying somewhat with the character of the soil and moisture, are exceedingly likely to appear wherever permitted to grow. Some of these are almost confined to the roadside, while others are noxious pests also in the fields. All are

unsightly to the eye of the thrifty farmer as well as to the horticultural expert. The deep, narrow ditches which we have discountenanced and the corners of the old rail fences are very difficult to keep cleaned out, but with the board and wire fences now so commonly used, or better with no fences at all, this work is comparatively slight. Fortunately for us blue grass is an efficient and acceptable aid in the extermination of bad weeds. Over most of our territory all that is necessary to destroy the rank weedy vegetation of the roadsides and replace it by this beautiful lawn-grass, is to keep the former properly cut. If the grading has been as herein proposed, this may usually be entirely accomplished with the meadow mower, making the expenditure of labor very slight. Running the machine two or three times a year over the unobstructed road surface is a small matter for each land owner, or if preferred for the public officers in charge. But what a difference in result! the smooth, grassy borders are a delight to all eyes and a welcome relief from the unkept coarseness too often presented to the traveler as an indication of the careless inattention of the inhabitants. Except in city streets it is not necessary that the grass be always short as upon lawns. Indeed, so far as the grass itself is concerned, once mowing for the season will suffice. Otherwise it is only essential to keep down other growths. Of course the time and frequency of cutting must depend on the things to cut, always taking care that seed is not allowed to mature. In special cases other means would have to be employed to totally eradicate noxious weeds, but simple mowing at proper times will ordinarily suffice. The borders of the streets in towns ought to be better graded and cared for. Nothing can add more to the general appearance of a residence street than for each lot owner to extend his lawn ten or twelve feet beyond the sidewalk, and bestow the same care on his outer strip that is or should be given to the lawn next the house. In this connection it must be said the public highway is no place for stock of any kind running at large, neither in the country nor in the villages.

3. Trees must receive the main attention in the horticulture of roads and streets. Objects so prominent as these must be observed by the most listless. Even the peculiarities of the different kinds forcibly strike the eye of the observer. The wonder is that better selections are not generally made, and that greater care is not bestowed upon them. The fact is, however, that the original cost, the ease of transplanting, and the rapidity of growth are usually allowed to count more in the choice than the final fitness of the tree for the purpose. People plant wayside trees as though most importance was attached to the appearance the first few years, or as though the planting really concerned a brief period of time. And then, when once started, young trees are too often no more appreciated than annual plants. Men hitch horses to trees with no more heed than

though they were able to heal wounds as speedily as they are made. Pruning is often practiced with as little study as in splitting stove-wood. In spite, therefore, of the necessary prominence and usefulness of trees for highways it is very rare to find them, either in town or country, even fairly well selected and managed — a shameful acknowledgement. Is it not time that the horticulturists of the country should vigorously bestir themselves upon a subject so general in interest and so important in public esteem? Missionaries are needed, — home missionaries in every township and school district, where line upon line and precept upon precept must be largely relied upon, for example, alas, is too slow. The beauty of an avenue of trees comes only after decades or centuries. He who waits for the stimulus of the results of his neighbor's recent planting most likely waits for ever. Older planting must be studied. What lessons are daily taught by the magnificent avenue of elms on Boston's "common," planted before the Declaration of Independence was signed! In our fertile soil less time is required for splendid results, but in all cases prominence in thought ought to be given to the distant future in tree planting on streets.

This is no place for detailed directions which must necessarily trespass upon the time, if not upon the patience of the society, but some general considerations are offered. Let us first note some of the qualifications of good road and street trees. These may be discussed under the heads of (1) appearance; (2), size; (3), hardiness and healthfulness.

1. It is not saying too much that an ornamental tree must be ornamental, and valuable in the degree of the latter quality. The manner of growth, the shape of the head, the peculiarity of the branches, the quality and color of the foliage, the time of the appearance of the leaves in spring and their fall in autumn, the flowers and the fruit, all enter into the complex whole, making a beautiful and appropriate tree. It would lead us too far to attempt specifications here, but an inference may be had from the selected kinds named below. Usually the head should be naturally round — neither spire-like nor drooping; the foliage should be abundant with considerable play of light and shadow, and length of season, earliness and lateness combined, is desirable. Flowers give additional charm, but ought never to be counted against good foliage.

2. As to size, a mistaken idea seems prevalent that the largest growing trees are the best. A fine tree of great size is, indeed, a magnificent object — one of nature's grandest productions; but we especially admire this as a single specimen standing in an open park or field. For rows along the highways less size is better for the practical, if not for the artistic, results. The road-bed itself should not be shaded, neither should a continuous wall of foliage be permitted, shutting out the breeze and the view from the traveled-way.

The beautiful effects come quite as much from the uniformity and neatness of the line as a whole, as from the trees as individuals. Individual size is not, therefore, so much considered.

3. As trees develop slowly and require many years to become most effective, it is exceedingly important that they should be permanently healthy in the given situation. They must be secure against the chills of winter and the fervor of summer; against the inroads of insects and the blights of fungi, adapted to the soil, proof against the winds and the gaseous contaminations of the air, not liable to injuries to the trunk, and capable of withstanding the inevitable tramping of the earth. When we come to carefully select our trees with these things all in mind, we shall find our list of really good kinds much smaller than most people think.

A very common fault in street tree planting is placing them too near each other. As an average distance fifty feet is near enough whether in the country or the town. It would often be better to double this distance. To be sure, trees when planted make but little show thus separated and it is an easy matter to cut down alternate ones at any time. But as already said the future rather than the present must rule in this work, and the ax is invariably spared and the tree spoiled. As a general rule it is best to plant only where large trees are wanted in the years to come.

In the matter of trimming, no untrained heart and hand should be permitted to practice butchery on trees. Remarks on this subject gain special emphasis from the barbarous work lately done in Champaign and Urbana upon the pretext of clearing the way for electric light, as if twenty-year-old trees were not more valuable than the facilities for a special method of lighting the streets during the moonless evenings of summer time, for the lights are extinguished at midnight and in winter the trees are not in the way. In some instances trees were cut away entirely. Savage as this may be it is better than leaving a perpetual exhibition of depraved mutilation. The only proper excuse for a village street tree is for ornament. If by ill considered pruning it is rendered an eye-sore instead of a thing of beauty, by far better take it away. For the special purpose mentioned it was not necessary to saw and chop the trees into snags and shanghai abominations. The end could have been accomplished and the trees improved at the same time, by properly shortening in the spreading tops. But when this was suggested to the officer in charge of the work, he replied. "Yes, yes, that's what others have said, but it would take all summer." What economy was there! Twenty years' accomplishment sacrificed for twenty cents! Fortunately citizens resisted the merciless ax and saved some trees.

Such pruning requires educated skill as well as thorough going conscience. Street trees should be continuously looked after instead of periodically slashed. They require and merit annual examination

and the necessary, but always slight trimming. To do this properly requires a thorough study of the tree as a species as well as an individual, that not only the present needs may be met, but that the future development shall be as wished. It would be an excellent thing for the street trees if in every corporation there was a village improvement society, in which the matter was fully and intelligently discussed and then a committee appointed to care for the trees as a specialty.

REPORT OF THE COMMITTEE ON FINAL RESOLUTIONS.

Would recommend thanks to the various railroads and hotels that have granted concessions to our members; to those who have furnished the hall for our use; to those who have made a display of fruits and vegetables; to the decorators of the hall; to the ladies for the excellent music, and to all those who have furnished papers for our discussion.

F. I. Mann,
F. Cadwell,
F. J. Heinl,
Committee.

Society adjourned *sine die.*

ADDITIONAL PAPERS.

CAN WE RAISE PEACHES IN CENTRAL ILLINOIS?

BY G. W. MINIER, MINIER.

For the last three years I have experimented on the raising of peaches in Central Illinois, and have succeeded in spite of our severe winters. Being satisfied with my plan, I now wish to present it to the Central Illinois Horticultural Society; permitting said Society to use my plan to its entire satisfaction, and to obtain a patent if it choose to do so.

Late in autumn, some time in November, with a sharp spade cut the roots of the tree on two parallel sides, some six or eight inches from the tree; throw out the severed roots and soil to the depth of the spade, and some two feet in length. The tree must then be bent carefully to the ground, and fastened down. I used forked sticks for this. Lay over the prostrate tree some limbs of trees or corn-stalks, throw on a few spades' full of soil, then carefully fill the cavities at the root of the tree with earth, or well-pulverized manure. In this situation the tree rests till about the first of April. Remove the

covering, with care, and the loose earth about the roots. Lift the tree to nearly an upright position, and with a cord fasten to a stake driven firmly in the ground. Put a paper padding around the tree, under the cord, to prevent corrosion.

A good workman in this way will secure twenty trees in a day,—enough for the use of a family. Last fall I laid down six, two of them were too young to produce fruit, four are bearing, and these are heavily loaded. I have passed my seventy-fifth winter, and can still secure ten trees in a day.

The peach is one of our best, most delicious and health-giving fruits. The tree, aside from its bloom and fruit, is not a desirable one.

APPLE AND STRAWBERRY-GROWING ON THE SAME LAND.

BY A. H. GASTON, LACON.

The apple and strawberry, at this time, have the greatest commercial value of any two fruits grown in Illinois. Their extended production should demand our special attention.

We will commence with one acre, then it can be multiplied by ten, fifty, or one hundred acres, to suit the planters. The land should be dry and rich enough to raise corn or vegetables, and well fenced with lath and wire fence, in order that fowls, stock of all kinds and rabbits may be kept out. Plow the land deep, and harrow well; select a northern or western exposure, if possible.

Plant the land first to strawberries, putting the rows four feet apart; then, set the plants from two to three feet apart in the rows. Then set every eighth row to apple trees, putting the trees sixteen feet apart in the rows. This will put about eighty trees to the acre. When the apple trees are three or four years planted, take one ring of bark, one inch wide, from the stem of every other apple tree, some time in the month of June. This operation will check its growth and bring it into early bearing. Serve in the same way each year, and in the course of ten or fifteen years it will have exhausted its strength, and should be cut away when the other half of the trees will require all of the ground, making them thirty-two feet apart each way.

To make apple and strawberry growing a success, very much depends on the varieties planted. From the experience and observations that we have had in strawberry growing, we would recommend planters to plant of the old varieties, Crescent Seedling, pollenized with Cumberland Triumph, Sharpless, Glendale, Lacon or Wilson's Albany. Among the more modern or later introduced varieties, we would recommend Bubach's No. 5, pollenized with Bubach's No. 132, for family use or the home market. For shipping, Warfield's No. 2 is now very promising. There are two new seedling strawberries that originated at Lacon, Illinois, which were exhibited at the last

June meeting of the Marshall County Horticultural Society that are very promising. They both seem to be especially adapted to canning, an enterprise that the strawberry growers of Lacon and vicinity are greatly interested in at this time.

There are several valuable varieties of apples, for the commercial orchard, such as Red Astrachan, for summer, Maiden's Blush, for autumn, and Solome, Roman Stem and Willow Twig, for winter. However, the three best varieties for the commercial orchard, are the Duchess of Oldenburg, for summer, — its time is July and August — of Russian origin. The Fameuse or Snow, for fall, — its time is September, October and November — of Canadian origin. The Hennepin is the coming apple for winter. It is a seedling of the Yellow Bellflower, supposed to have been pollenized with Ben Davis. It combines the following points, viz: — size, style, quality, long keeping, great bearer, hardy tree, and a very rapid grower, both in the nursery and orchard — more leading points combined in the same apple, than any other that has yet come before the American people. The Hennepin is a native of Northern Illinois. Its time is from December to June. The above named three varieties for the commercial orchard, will carry us around the entire year in Northern or Central Illinois, or throughout the entire great Northwest.

Plant thirty per cent. of the orchard to summer; ten per cent. to fall and sixty per cent. to winter, is the best advice your humble servant can give to the apple growers of this great and growing country, which is seemingly but in its infancy yet.

Wishing the Illinois Central Society a good meeting, and hoping that you in your wisdom, will think best to accept of the invitation that our local society sends by our worthy City Mayor, G. W. E. Cook, to meet with us one year hence. Then you can see our canning factory in operation, and many other things of interest.

ORCHARDS IN CENTRAL ILLINOIS.

BY W. H. GREENE, BUSHNELL.

A tree of beauty is a joy forever, and especially one laden with bloom or luscious fruit. I have stood in the orange groves of the South, and from the golden trees picked the luscious fruit, and have seen the fragrant orange blossom; but in no land or climate can anything be found to equal the apple orchards of our Middle and Northern States in beautiful bloom, when, in spring time the air, laden with the sweetest odors, sweeps over prairie and woodland, sweeter than the spicy breezes of the famed East Indies.

There is nothing more beautiful than the bright and fragrant bloom of an apple orchard. And what is more magnificent than the crimson or golden fruit, so delicious and wholesome? We love a

tree, and to us it is a great pleasure to watch its growth and development, so elaborate in every part, its leaves corresponding to the lungs in the animal kingdom, and breathing the carbonic acid portion of the air thrown off by animal respiration which is poison to animal life, so that a proper balance is maintained in the elements of the atmosphere, by the animal retaining the oxygen and throwing off the carbon, while the plant absorbs the carbonic portion and throws off the oxygen. How wise and beautiful are the harmonious provisions of nature!

Casualties aside, with proper relations of life and health, men and animals, trees, etc., would live to a good old age. But, alas! when the laws of life are unobserved, or when epidemics sweep over us, how sad the change; decay and death follow. Disease has entered our orchards and nearly completed its work, and unless soon — yes, very soon,— arrested, the once thrifty orchards of Central Illinois will have become a thing of the past. We are, indeed, standing upon the borders of an awful gulf that is swallowing up all our apple orchards, and we ask, is there nothing stable, nothing abiding, on which poor, weak, helpless man can fasten to arrest this? Has the glory of our orchards departed forever? Is there no hope?

Can not man, with the aid of the mighty inventions and discoveries God has given him, be able to investigate and ascertain, by the help of the microscope, the cause of this disease? Man's power seems almost unlimited, when we look at the marvelous progress of science and art for the past fifty years. From the needle to the elegant sewing machine, operated by hand, steam or electricity. The progress from the scythe and cradle to the perfected steel mower and self-binding harvester. From the oar and sail boat or vessel to the majestic steamboats which cover our rivers and lakes, and steamships bridging the Atlantic in six days, moving over the placid waters, or riding the angry billows like a thing of life. The lightning is made to do man's bidding, in carrying messages by telegraph and telephone; even so we can, under favorable circumstances, recognize the voice of a friend one thousand miles off; in lighting our towns and cities so brilliantly and beautifully; the recently perfected electric automatic phonograph, which grasps and puts on record the lecture, sermon, speech, or conversation of the hour, and preserves it for the future, repeating it when desired; and, finally, man has chained the lightning to his chariot, as now seen in many of our electric street cars. This progress is seen in improved means of travel, from the slow stage, canal and flat-boat, to our swift steam cars, running from twenty to sixty miles per hour on 150,000 miles of railroad in the United States; enough to belt the earth six times. How wonderful! And nearly all of this progress in the last fifty years, even since my birthday, and during the lives of many of us assembled here.

Man, whose power arrests disease and decay in the animal organism, and who has recently learned that, in surgery, a wound need never suppurate, or run matter, if, soon as the wound is produced, it is instantly enveloped in something which keeps it from the air, so that bacteria from the air can find no lodgment, but will heal healthfully and quickly from the power of the vital forces within. Can it be, that man is not able, with proper study and investigation, to cure the diseases of the vegetable kingdom,— like our apple, pear, and other trees,— which, undoubtedly, are caused by bacteria or micro-organisms?

Now you will bear in mind that to properly consider and understand the cause and progress of this decay of our orchards, it will bring us into scientific research, and we must of necessity describe the micro-organisms which exist in the air, and which, we believe, are causing such a terrible work of death among our apple trees. Travel east or west, through the central portion of our State, and you see plainly this decay, not a single orchard is exempt: and where, a few years since, these fine, thrifty orchards stood so gracefully, now but a few lone sentinels remain to tell of the sad epidemic which has swept off from one-half to nine-tenths of most of our apple orchards. The young orchards of three or four years are fareing the same.

All manner of causes are assigned by different people. Some say it is caused by the hard winters. Let us think a moment; can this be the cause? Did we not have as cold winters previous to this decay, which has all come upon us in the past six or eight years? Some say it is caused by root grafting on pieces of root. If so, why have they not died before, or why are such trees sound and healthy in New York, Michigan, and other places?

Others consider it as being caused by atmospheric influence. Probably the latter theory comes nearest the fact; for the atmosphere is the vehicle that brings these unseen living things in contact with our trees. The freezing, or sun-scalding of trees, caused by late growth so the wood does not sufficiently ripen or mature, some of the sap is arrested in the wood cells before it returns to the roots; or, over-bearing of fruit, or any other means that may weaken the vitality of the trees, renders them an easy prey to the bacteria, which effect a lodgement wherever the bark is broken or weakened, just as these micro-organisms get into a wound in the animal organism, and by rapid increase and action, like yeast or leaven, affect all the blood of the body, and when thus poisoned, death is the result, so they work in the sap of a tree, which may be called vegetable blood; and if suffered to remain, if the affected branch or limb is not removed, amputated early and before the sap goes down in the fall to mingle with the good sap of the tree, then the bacterized sap leavens and poison all the sap, so that the following spring when the sap rises and

is again carried to every cell, it being poisoned, of course the whole, or most of the tree, dies. You all know, from experience, that this is the way our trees are going, first, a branch or so, and the following season, most of the tree. The Janets were the first to die; they had borne very heavily the previous year, so as to weaken their vitality, making them an easy prey to bacteria. Next, the little Romanite, which was one of our hardiest varieties, then Wine Sap, Greening, etc. Those varieties, like Roman Stem, which heretofore had borne lightly, or not all, being strong and vigorous, have resisted disease the best. Then I conclude, first, it is a disease; secondly, it is a sap poison. It is a sap disease similar to blood poison in the animal organism, caused by bacteria, or micro-organisms. These bacteria are now known, by investigation with powerful microscopes, to be the cause of malaria, typhoid fever, consumption, diptheria, croup, scarlet fever, measles, smallpox, hog and chicken cholera, etc., by attaching themselves to the weakened inflamed mucous membrane of the throat or sensitive surfaces by contact.

We believe we shall be able to show to every reasonable and unprejudiced mind, that our apple trees are dying by a terrible disease, exactly like blood-poison in the animal and human being. And as we see the body attacked when weakened, or in its weakest part, with micro-organisms, as in the white and yellow patches and coating of the membrane of the throat in diptheria, which, if left alone and not arrested, soon eats into the circulation — the blood — producing blood-poison and usually death.

In like manner the bacteria, from the air, fastens upon the weakest part of the vegetable organism, such as an abraded surface or place where the bark is injured, perhaps by freezing, or some other cause, and eats its way "as doth a canker," until it reaches the circulation — blood, or sap of the tree — and poisons it all.

Now, in diptheria, if we would save life, we must at once proceed to remove these micro-organisms. How shall we do this? We reply that at the first appearance of this disease, before scientists learned the cause, it was almost sure death, but the science and skill of recent years has found several very effective remedies. By the help of the microscope and the investigations of scientists we now know the cause, and can remove it, saving the greater per cent. of life, and probably nearly every case, if taken in time. Common coal oil has proved very effective when applied to the surface. Carbolic acid, in weak solution, and the same combined with golden seal and used as a gargle, or applied with a swab to the inner surface, — the white or yellow patches of the throat; also the inhaling of steam or vapor from water, or fresh slacked lime, or breathing the smoke from burning tar and venus turpentine; each and all are effective in killing the bacteria, or disease germs we may call them.

Now, as we think we have found the cause of the disease of our

fine and thrifty fruit trees, let us no longer be discouraged and fold our hands idly, saying: "Oh, they must die; we can't help it." But, rather, let us take the experience of the diptheric and other cases of animal blood-poisoning disease, and apply it to the horticultural treatment of our precious fruit trees — God's best gift to man,— and which have never seemed half so valuable to us as when attacked with disease, their beautiful forms laid low in death by the invisible and heretofore unknown micro-organisms that fill the air and the stagnant waters of the earth.

Now, let us look at our apple trees, and, as the medical man would say, give a diagnosis of their condition. First, we see the limb is affected, not like twig blight, but we see a small limb dying, the leaves turning yellow; the bark often blackening and always deadening, etc., and extending down to the body or larger limbs, and if left until the sap of the poisoned limb mingles with the good sap, and returns to the root for winter rest, and again rising the following spring, we find the sap so vitiated that other limbs soon die, and seldom a tree so attacked survives a second season. We believe that as soon as a limb is known to be dying it is best to amputate at once, as the surgeon does the gangrenous, or blood-poisoned limb of the animal, so that this bad sap shall never be allowed to go down and mingle with the good; for the bacteria is like leaven, that works "until all is leavened." In fact, leaven is composed of micro-organisms, which multiply very rapidly by division, or throwing off of their parts, each part forming a new and perfect organism. When the limb is cut off, paint over the wound, and pour coal oil on or about it.

Never trim an apple tree in the winter, but always in June, so the wound will easily heal over. Better pay five dollars per day for pruning in June than have it done free other times. Farmers usually trim in February or early spring, when they have leisure: but wherever you take off a limb when its sap is down in the roots, the sap, when returning in spring, will force a heavy growth of sprouts, which are hard to remove. Trim as little as possible, and now, when these invisible organisms are so abundant, don't leave the wound exposed for their lodgment, but cover it well with paint. Our active experience with this sap poison is confined to one tree,— a Willow Twig. We noticed it had a large limb, fully one-third of the tree, dying in the spring. The leaves were dead and bark changing. We took a saw and cut it off, away below where affected and close to the body, and poured part of a teacup of kerosene on the stub and bark, about and below. It was so removed that no sap from the poisoned limb ever reached the body of the tree, it healed nicely, and has borne fruit well every season since,— perhaps six or eight years.

The year following, and each year since, many trees began to

decay, the same as above, and so many that we became discouraged and did not try to save them, being very busy with farm work in the summer when it ought to have been done. So that to-day, out of fifteen acres of fine orchard, once all bearing and of different ages, nine-tenths is dead. Why should I picture this decay farther? as I speak of these once beautiful orchards, loaded yearly with luscious fruit, but now laying with broken limbs and trunks strewing the ground, so that an annual clearing and gathering up still leaves it covered, and makes the heart sad to think of the destruction of this pestilence. But my experience is but similar to most, or all, who may hear me or read this paper.

The wood of these poisoned trees is so rotted and softened it is not fit for fuel — very much of it,— just like an animal body or limb that has died or been removed for blood-poisoning: every cell and tissue is affected, and it is easily accounted for, as it is a disease affecting the circulation, and so permeating every part.

A word regarding the codling moth, which causes our wormy fruit. By the experiments of Mr. Hammond, of Warsaw, Hon. B. Pullen, of Centralia, and one other orchardist — whose name I have forgotten,— last season, it is plainly shown that spraying the trees when in bloom, and repeating it ten days after, with a solution of London Purple, has proved effective and cheap, costing about ten cents per tree. This spraying may be quite effectual in destroying the bacteria also. Let us experiment and ascertain what will destroy them.

This ought to be done at the expense of the State, which should make an appropriation for this purpose. Still, let us do what we can individually. We may find that the same or similar substances as are used for these attacks on the animal organism will prove effective, such as alkali, kerosene, caustic, or poisonous washing, or spraying with arsenic solutions, etc. I think these will, undoubtedly, cure our trees, as sure as the former-mentioned remedies now cure diseases of the animal organism.

In a former portion of this article we said it would be necessary to give a description of bacteria, and we will now do so, in order that we may know more about this most minute form of life as it affects health and disease.

Pure well or spring water does not contain them, all foul waters do. These minute microscopic organisms exist in all filth in countless myriads, also in decomposing animal or vegetable matter — whether ill-scented or not,— in all organic substances undergoing apparently spontaneous changes, such as heating in bulk, becoming sour, rancid, or putrid, and generally those changes known as fermentation or decay. The water in ill-scented cisterns, and some where no odor is perceived, in impure well water, the water of stagnant ponds, marshes and foul ditches teem with them. A drop seen

under the microscope often shows a maze of living beings most wonderful. The waters of running streams have them to some extent, and peculiar kinds make the ocean their home. The air, like water, is pure or impure, and is often filled with living, moving, multiplying things. They are found in floating dust of organic origin, in the atmosphere of close rooms, in thickly-crowded streets, and particularly over decomposing filth. They are unavoidab y inhaled with every breath. In the open country few of them are found, and the same may be said of desert regions.

The cyclone is, no doubt, a purifier. The air, during damp, close weather in summer and autumn, is freighted with myriads. These micro-organisms are found in the slime on vessels wherein is standing-water : on the surfaces of many articles of cold food when set away for some time, for instance, boiled potatoes and cooked meats ; some forms of yeast : sour milk always has them in swarms, and so do liquids from fruit, when forming into vinegar. They are always present in pus, or matter from suppurating wounds, in discharges from boils and tumors on the animal organism, in the matter gathering on the teeth, which is full of them, and some kinds retain their activity in the stomach. In health the blood is free from them, but in some diseases myriads of them are swept along the currents of the blood vessels. It is easy to see how the blood gets out of order. A few words regarding the color, shape and size of these organisms may be interesting. As a rule, they are white, and when numerous in water it looks milky ; but of different species each has its peculiar color,— as red, blue, yellow or green. In shape they are round, oval, cylindrical, or like a thread. In size, from one twenty-five thousandth to one fifty thousandth of an inch in diameter. It requires a magnifying power of ten thousand areas to see one of ordinary size — 100 diameters,— and ten times as great power is required to make out its shape.

If a man was magnified 1,000 times — which is the lowest power by which one of the largest bacteria may be seen,— he would be one mile high. From one hundred to two hundred and fifty of these bacteria are required, when placed side by side, to be as wide as the thickness of common writing paper. They are the smallest living organisms known to man. They multiply very rapidly, even double every hour under favorable conditions. Don't let us conclude that bacteria are "always injurious, and only injurious in their effects." This is far from the truth. "They are, primarily, the agents of decay" ; still, in this sense, untold good results from their activities. "It is, indeed, no more startling than true to say the organic world is indebted to them for its existence." Were it not for the destroying, decomposing work of the bacteria, which changes animal and vegetable organic bodies into new forms — liquid and gaseous,— so as to form material for new structures. Then organic matter, animal

or vegetable, though dead, would never decay or decompose,— they would endure for ever, unless burned by fire ; and we should see the immense accumulation of trunks of fallen trees in our forests and vegetable production as obstructions, in place of forming vegetable mold for future growths. The bodies of animals would remain like mummies for all time. The processes of nature run in a circle, without these, man could not live on the earth.

Directly are we indebted to bacteria in many ways, some of which we will name : Yeast bread making, vinegar making, sour krout, rotting of flax, bleaching of linen and cotton, etc. What wonders the microscope reveal to man ! Without it, Pasteur, of France, could never have discovered a vaccination for some of the most fatal diseases of men and animals, practically subduing them. Why not discover a vaccination for apple-trees ! Oh, what a pleasure there is in the use of the microscope. Many a day have we spent with our's examining the objects of nature, bringing to our enraptured sight the wonders we had never conceived of before. Now, in conclusion, we think we have given a practical and concise account of the cause and probable cure for our deceased orchards, but no doubt many will be startled with these facts as we believe them to be and, it may be, some will believe nothing of it; it is, no doubt, a new theory to many. It is original with us, as we do not remember of ever hearing or reading of it before as applied to apple-trees, but we believe scientific and thorough investigation of coming years will prove it, and that if we will faithfully go to work and spray our trees with arsenical, carbolic, caustic, or any other solution that will kill these bacteria or disease germs, we shall succeed. Brother farmers and horticulturists, let us try it and experiment until we do succeed !

We believe the time will come, yea, is close at hand, when we shall again raise thrifty, beautiful and fruitful orchards in Central Illinois and all along this diseased fruit-tree belt — when we become sufficiently intelligent regarding the nature, culture and disease of our fruit trees, so we can and will act intelligently, and consequently successfully and effectually in rearing and saving our orchards. How true that "an ounce of prevention is worth a pound of cure." Again, we say, the best and proper way to live so as to avoid disease, is to follow nature's laws, casualities and pestilence aside, man, and fruit trees as well may live to a ripe old age and die a natural death. Thanks for the growing intelligence of this age, that by the aid of science and modern research, physical suffering is becoming less and the causes of diseases and ills that have heretofore baffled the skill of man, are now known and a cure easily effected. As man brings the compound microscope to his aid in bringing myriads of organism to view to study their life, habits

and effects upon life and health, in aiding or destroying the same, may we not say with the psalmist:

"Surely He shall deliver thee from the snare of the fowler and the noisome pestilence. He shall cover thee with His feathers and under His wings shalt thou trust; His truth shall be thy shield and buckler."

"Thou shalt not be afraid for the terror of the night; nor for the arrow that flieth by day; nor for the pestilence that walketh in darkness; nor for the destruction that wasteth at noonday."

MEETING OF THE EXECUTIVE COMMITTEE.

ALTON, DECEMBER 13, 1888.

The Executive Committee of the Horticultural Society of Central Illinois met at Alton, December 13, 1888. Present, President Dennis, Secretary Hammond, F. I. Mann and Frank Cadwell.

The President announced that the question of locating the next annual meeting was the first business in order and invited invitations from those who desired to have the Society meet with them.

Mr. Augustine presented an invitation from Normal, Mr. Cook from Lacon, and Mr. Cadwell from Griggsville.

A ballot was ordered, which resulted in the selection of Normal, as the place of the next meeting.

Mr. Dunlap moved that the meeting be held the first week in September. Motion lost.

On motion, it was ordered that the meeting be held the middle of May, with the understanding that the Executive Committee may move it forward or backward one week as may be desirable.

C. N. DENNIS, *President*,
A. C. HAMMOND, *Secretary*.

PROCEEDINGS OF THE MONTHLY MEETINGS

OF THE

ALTON-SOUTHERN ILLINOIS

HORTICULTURAL SOCIETY.

REPORTED BY F. C. RIEHL, SECRETARY.

OFFICERS FOR 1889.

President—Wm. Jackson, Godfrey.
First Vice-President—J. S. Browne, Alton.
Second Vice-President—E. A. Riehl, Alton.
Secretary—F. C. Riehl, Alton.
Treasurer—S. F. Connor, Alton.
Librarian—H. G. McPike, Alton.

PROCEEDINGS

OF THE

Alton-Southern Illinois Horticultural Society.

REPORTED BY F. C RIEHL, SECRETARY.

MARCH MEETING.

The Alton-Southern Illinois Horticultural Society met at the office of S. F. Connor, on Saturday, March 10th. Despite the bad weather, a good many members were present. The Society was called to order by President J. S. Browne.

ORCHARDS.

E. A. Riehl — There is not much to be said on orchards at this time; they are all in good condition, peaches included. I think I have enough live buds on my place to give a fair crop of peaches in most varieties. As this is the time for pruning, I will give my method: The trees should not be allowed to grow as they please. Keep the trees low, so that a man on the top of an eight-foot ladder can pick all the fruit. Cut out the top and centre branches, so that the sun can get well into the centre of the tree. This will cause young branches to grow out all along the body and main limbs of the tree, and these, when they are not expected to fruit, should be clipped off to within one inch of the stem. For every one of these twigs cut off, from two to six more will grow out. Thus you will have a fine lot of fruit-growing branches all along the inside of the tree. A tree thus pruned can bear up all the fruit that will grow on it, it will bear more, and the fruit will be of the first quality. Herein, I believe, lies the secret of growing fine peaches.

H. G. McPike — Do you ever prune after the trees are in bloom?

Mr. Riehl — It should be done before, as every leaf cut off is an injury to the tree.

The President asked what the general prospect was for a crop of peaches?

James Davis — I think I shall have about one-third of a crop.

F. I. Crowe — I do not expect any.

G. W. Hilliard — I don't think there will be many in the vicinity of Brighton.

Dr. E. C. James — I do not expect any. There are some people in Upper Alton who think they will have some.

Mr. McPike — I expect to have about one-third of a crop.

E. A. Riehl showed some twigs of Smock, Amsden, Parks' Cling, Silver Medal and Family Favorite, which were examined by the Society, and found to have quite enough live buds for a crop.

Mr. McPike — I find that old trees have not many live buds, it is only thrifty young trees from which we can expect anything; also that trees on the summit have more than in the valley. Do you think that our proximity to the Mississippi is any protection to us?

P. E. Vandenburg — I should think so; for they grow peaches in Michigan, and even in Canada, along the borders of Lake Ontario, being protected by the warm breezes from the lakes.

E. A. Riehl — I do not think so, there is not enough water in the river to produce any effect. The water of the Mississippi is as the wine glass is to the wash tub, when compared with the great lakes. And the lakes are open, while the river is always frozen over solid when it is cold enough to kill peaches.

Mr. Browne — Do any of you know anything about the York Imperial apple?

E. A. Riehl — It is considered good in Pennsylvania and what is good there, usually does well here.

Wm. Jackson — Does the condition of the trees in the fall have any effect.

Mr. Hilliard — Would not trees well cultivated be more subject to cold than others?

Mr. Riehl — I don't think so.

VINEYARDS.

Wm. Jackson called attention to an article written by Prof Standish, of Galesburg, Illinois, and published in the *Prairie Farmer*, in which the writer condemns the report on grapes made by J. S. Browne at the last meeting of the State Society, and strenuously defends the Concord and Noah grapes. He charges our want of success in growing, to lack of proper cultivation, citing as proof his own success; saying that from a fourth of an acre he realized a net profit of $125. This would be $500 per acre, or $40,000 for eighty acres.

E. A. Riehl — The Professor isn't posted. Being a professor as well as a horticulturist, he ought to know that we are troubled with the black rot, and farther north where he lives, they are not because of the difference in the climate. The rot is caused by a fungus which perishes from cold, whenever the thermometer falls below sixty degrees Farenheit, even if but for an hour, which happens often in the morning, farther north; hence, they are free from that dread disease which so worries southern growers. Being on the Ad-Interim Committee for the State Society some years ago, I went to Galesburg on purpose to see Mr. Standish's vineyard. I found his vines looking finely, but the soil is made from stock-yard manure, put on to the depth of two feet. If any of our members think they can afford this, let them try.

Mr. McPike — I agree with Mr. Standish in one point only. We should not give up the Concord. It has given better crops than any other variety, and can be prevented from rotting by bagging.

Mr. Browne — The Concord, aside from its other faults, is too late to be grown for profit here. It ripens at a time when the markets are over-stocked with better grapes from other localities, and then does not command a high enough price to pay for the trouble in growing it. The kind that will pay us here are the early ones; such as Moore's Early, for instance, something that will get to market early and bring a fair price. Noah has proven itself utterly worthless, and has been condemned even by those who sent it out. And the idea of a man taking a quarter of an acre and bestowing upon it all the work and care of an enthusiast, and then multiplying

the profits by acres to ascertain what would be made from a quarter section, is simply preposterous. He might as well go a little farther and carry his calculations over the State of Illinois, in order to be able, in a few years, to pay off the national debt.

Mr. McPike said this reminded him of his turkey story which he could not refrain from repeating: "He had bought a turkey hen for $1.25; this hen laid twelve eggs and in due time hatched twelve young turkeys. These lived and grew fat and he sold them in the fall for $1.25 each. Hence, if he had started in the spring with 1,000 hens — conclusion."

Mr. Riehl — Mr. Standish's success is to be attributed to his climate, our failure to the same cause.

Mr. Jackson — Don't you think the Goethe will pay us?

Mr. Riehl — It has too many faults to pay for market.

S. F. Connor — Nine-tenths of the Goethe that come here to market are not fit to eat. They will bring fair prices where they are good.

E. A. Riehl — Have any of you had experience with tarring stakes. I tried it last year and have about come to the conclusion that it does no good, though I have often heard that it does.

Mr. Browne — One who has had experience told me that it was worse than useless.

SMALL FRUITS.

Mr. Browne read the following:

Mr. President: — In looking over the strawberry department of the numerous nursery men's catalogues, I find the usual crop of new candidates for public favor, at the same old prices; $2.00 per dozen. There is something very fascinating about a new variety to the average fruit grower, and the number bought and tried is usually ruled by the weight of the purse, and not by the desire to purchase. Of the very large number of new varieties which have been placed before the public with such glowing descriptions, particularly in the last ten years, how many have survived the test of the field? I think you can count them on your fingers, but still, I think it advisable to try, in a small way, a few of the best recommended each year. For among them we may find one that is just suited to our soil and method of cultivation, for I do not think that any of us will say that we

have a variety which we consider perfect. The outlook for strawberries the coming season, in this locality, as far as I can learn, is among professional fruit growers, fairly good; among those who make berry growing a side issue, very poor. As for my own, the prospect is the best I ever had. The causes to which I give the credit for my success are; first, good land; second, proper cultivation.

My method of cultivation is to plant as early in the spring as possible; by preparing the ground in the fall a gain of two weeks can be made. I prefer to plant before any growth is made. I used to plant in rows four feet apart and eighteen inches to two feet apart in the rows, but have gradually made the rows narrower and lessened the distance between the plants, until now I make the rows two feet nine inches apart and the plants one foot in the row. I do not commence to cultivate until the weeds begin to show themselves, for I want the plants to get a good start before they are disturbed; keep all runners cut off until the last of July, for the newly set plant is no more able to make new plants before this time, than it is to bear fruit. By doing this very few weeds will have to be pulled by hand, for by the time you are ready to let the plant make runners you will have the weeds nearly all killed. If the surface soil is loose and there are no weeds do not cultivate during drouth. It is a mistake to suppose that the ground absorbs moisture from the air during the night in summer, for the temperature of the soil is always higher than the air immediately above it at nights. The object in keeping the ground loose and mellow, is not to allow the air to penetrate it and thus deposit moisture, but by the diffusion of the particles of the earth, capillary attraction is retarded and the moisture in the soil is retained for the use of the plants growing in it. If the matted system is followed do not allow the plants to crowd each other, for this not only reduces the quantity but also the quality of the fruit. As to what varieties to plant, for myself I have found nothing better than Capt. Jack for the main crop and Sharpless for family, though I have tested some twenty varieties.

Blackberries are generally in good condition and promise a fair crop; as to what variety to plant I must say that I do not know but will be better able to tell you something in another year. But I have made up my mind to this, that if I cannot grow anything better than Snyder, I will not grow blackberries at all.

Mr. Riehl — How many years has the system of cutting off the runners until July been pursued?

Mr. Browne — Three years.

Mr. Vandenburg — Would cultivate strawberries once a week all through the season; they grow better.

Mr. Browne — I don't approve of this, it is a waste of moisture.

Mr. Riehl — Wilson Jr. blackberry has been winter-killed again, and will not do for us, it is too tender.

Mr. Browne — What varieties of strawberries would you recommend?

Mr. Jackson — I don't like to make any statements, as there is a great difference in locality, and what would do well with me might not thrive with my neighbor. Will plant Ontario, Jersey Queen, Minor and Mt. Vernon.

Mr. Browne — Bubach is not a good market berry, it is too soft. Jewell is good, but must be well cultivated.

Mr. Riehl — Shall plant Captain Jack. Consider it the best for all purposes.

VEGETABLES.

Mr. Browne — I think Essex Hybrid squash should be recommended, it is as good as Hubbard and much more easily grown.

Mr. F. J. Crowe — Are small potatoes as good for seed as large ones?

Mr. Riehl — For a year or two they are just as good as large ones.

Mr. Connor — Isn't the best always the best?

Mr. Vandenburg — Yes; but it is a mistake to suppose that the largest potatoes are the best. A medium-sized potato is the best for seed.

Mr. Riehl — We should like to receive bids for the summer meetings. Would especially recommend basket picnics, for I think that people take more interest in them, and would rather attend them than private meetings. And we want everybody to join us and attend our meetings. Truly we can say in the spirit of the Gospel: "Whosoever will, may come."

This was the opinion of all.

On motion the sum of eight dollars on strawberries and cherries, and four dollars on flowers, was appropriated to be awarded as premiums at the next meeting of the Society, and the president appointed a committee to make out a premium list.

Adjourned, to meet at the residence of E. Hollard, in the midst of strawberry season.

JUNE MEETING.

The Alton-Southern Illinois Horticultural Society held a basket picnic and fruit and flower show, at Melville, at the place of E. Hollard, on Saturday, June 2d.

The weather was fine, though rather cool, and the attendance large. The fruit and flower exhibit was especially fine. After an hour or so spent by the younger horticulturists in wandering about the pleasant grounds and in disburdening Mr. H.'s cherry trees of some of their superfluous fruit, and by the elder ones arranging the fruit and flower exhibits and informal discussion, the Society was called to order at 11 A. M. by President Browne.

ORCHARD FRUITS.

BY E. A. RIEHL, ALTON.

It is my pleasure to report a fine prospect for a good crop of all kinds of orchard fruits which, at this time, are more free from insect injuries than at any time heretofore for years; caused, no doubt, by the almost total failure of fruit last season.

Apples are full and looking well except the Janet, which is bearing very little, although it did not bear last season. Pears show a moderate crop, enough to give us a good crop of good fruit. Peaches and cherries will be about half a full crop, and, so far, more free from the marks of the little Turk than at any time for a great many years, so that I will not run my curculio catcher at all. I attribute the exemption from the curculio to the want of fruit last season for it to breed in, especially to my cutting down my old sour cherry orchard two years ago.

I procured a Nixon spraying pump and nozzles and went all over my apple and pear trees with London purple. The machine works nicely, and think we will have to use them hereafter if we want good fruit, but I think the white arsenic will be better than

either Paris green or London purple; the former is too hard to keep in suspension and the latter is not uniform in strength and is not fine enough, and apt to clog the nozzles unless very great care is used in preparing it. The white arsenic can be dissolved perfectly by using a little soda or lye, and can be bought for about ten cents per pound, and, being pure, a less quantity will have to be used; hence is cheaper than either Paris green or London purple.

We are having plenty of rain now and everything is growing finely, orchards included; but it may, and probably will, turn dry later in the season and he who expects good fruit must cultivate his orchards. Hay, wheat, oats and weeds cannot be grown on the same ground with a good crop of corn, nor apples, or other fruits. If it pays to raise fruit at all it pays to grow it well. Many of our troubles that we attribute to the cold winters are, no doubt, due more to the drouths of summer, and improper cultivation, than winter's cold. Canada, Nova Scotia and Northern Europe have much colder winters than we, yet apples are hardy there that are not here; why should this be if it is the winter's cold that kills them? I have no doubt the trouble lies in our summer drouths. We cannot make more rain fall on our orchards, nor can we irrigate, but we can preserve what water does fall on our land by proper cultivation.

Mr. John M. Pearson — What proportion of poison do you use?

Mr. E. A. Riehl — I used what the authorities recommend, which is one pound of London purple or Paris green to 200 gallons of water, and of white arsenic one pound to 400 gallons of water.

Mr. Browne — Why will not an ordinary force pump answer the purpose?

Mr. E. A. Riehl — Because it has not pressure enough, it must be a pump especially manufactured for the purpose. I think the Nixon nozzle the best I have yet seen and would advise anyone who intends to spray to purchase the whole outfit. It costs about $35. The work of spraying costs but very little. Three men and a team are required to run the outfit, and they can spray about 150 trees per day, more or less, according to the size of the trees.

Mr. Pearson — How do you cultivate a full grown orchard? My old trees are so close to the ground that it is impossible to get under them with a team and plow.

Mr. E. A. Riehl — You should keep your orchard pruned up so high that a team can go through it in any direction.

Mr. Vanderburg reported orchards in the vicinity of Jerseyville as being in fine condition with the exception of quinces which were falling off badly.

VINEYARDS.

Mr. E. A. Riehl — Bagging should be done now as soon as possible to insure safety from rust.

Mr. Browne — Will try bagging before the vines bloom to test the question of self-pollenization.

Mr. Pearson — In regard to our little difference with Prof. Standish I may say that I also visited his vineyard two years ago. I do not think that it contains quite one quarter of an acre, but the vines were the finest that I ever saw. The Professor is an enthusiast, and bestows much care and labor upon it. He strongly advocates close pinching, and has certainly succeeded remarkably well.

Mr. Vanderburg — Is it possible to over-manure a vineyard?

Mr. Pearson — Judging from the example of Prof. Standish, I do not think that we need have any fear of this.

SMALL FRUIT.

Mr. Browne — My strawberries thus far are looking well. Of the new varieties Monmouth is the earliest, and the berries are fine. But I think most of the Lida. The berries are firm and all are large and fine; the vines are strong and healthy and very full of fruit. Bubach is a fine berry, but is too soft for market. I do not think much of the Jessie. Of the new varieties I would place Lida first, Monmouth second and Jessie third.

Mr. Vanderburg — Capt. Jack does better with me than anything else I can grow.

Mr. Davis — Of the old varieties Downing has given the best satisfaction with me. I shall have a full crop of blackberries, Lawton included. Do not like the Snyder. Raspberries are all looking finely except where they were winter-killed.

Mr. Riggs — My black raspberries are all right, but the red and especially the Cuthbert were badly winter-killed.

At this stage the proceedings were interrupted, and the presi-

dent, as "Master Coroner," proceeded to empanel a jury, consisting of all present, to hold an inquest on the contents of the dinner baskets. After about half an hour's spirited discussion, the unanimous conclusion arrived at was, that they had passed away by the most rapid stages of consumption.

A short recess was then taken, after which business was again resumed, and the Awarding Committee made their report as follows :

REPORT OF FRUIT COMMITTEE.

Mr. President: Your committee to whom was referred the collection of small fruits for examination and award of premiums, respectfully report that they have performed that duty, and submit the following as the result : It was intended that the time of this meeting should have been set when the best display of strawberries could be had, but the unexpected cool weather delayed ripening so much that many of our choice varieties could not be shown at their best. We award :

For Best Collection of Strawberries — First premium, E. A. Riehl, with fifteen varieties: second premium, Wm. Jackson with nine varieties. Both these members could have shown many more varieties had the meeting been held a few days later.

For Best Quart, Quality and Size Considered — First premium : Golden Defiance, William Hyndman. Second premium : Monmouth, J. S. Browne.

For Best Quart for Market — First premium : Capt. Jack, J. S. Browne. Second premium : Minor, John Riggs.

Best Family Berry — First premium : Downing, James Davis. Second premium : Capt. Jack, P. E. Vanderburg.

For Best New Strawberry — Bubach : first premium, William Jackson ; second premium, J. S. Browne. It is strong commendation to this berry that it should be entitled to both premiums in the hands of two growers, and in very different locations. The other new berries were the Monmouth, Warfield and Jewell. The former took a premium in another class, and could not compete in this by our rules.

For Best Seedling Strawberry, Good Enough to be Recommended for Cultivation — First premium, James Davis. This plant was shown in growing condition, and presented a fine appearance, strong in leaf and stalk ; the berries are dark red, firm, and will carry well. Quality good.

JULY MEETING.

The Alton-Southern Illinois Horticultural Society held a basket picnic at E. A. Riehl's Saturday, July 21. The weather was perfect and the attendance probably as large as any ever attending a meeting of the society.

ORCHARDS.

Mr. E. A. Riehl — The prospect for a crop of apples is not so good as at the time of the last meeting; there is not so much fruit on the trees, and much of it is scabby and the trees do not look healthy. The Janet bloomed very lightly but they set well and I have a better crop than I expected. Pears are a very good crop and the fruit is unusually fair. We have had some early peaches, but as is usually the case they were not very good and brought a low price. I would not recommend the planting of the early peaches. They are all poor and unsatisfactory to everybody who has anything to do with them, from the grower, dealer and commission man to the consumer. Do not expect we will grow a good peach earlier than Early York. There is so much fruit grown south of us that we cannot get the benefit of the early market and we must look to a market that we can command with goods of the best quality.

Mr. J. S. Browne — The leaves of the apple trees are also affected with scab and I think it was caused by the London purple with which the trees were sprayed. I sprayed a peach tree with a very strong solution of London purple and destroyed all the leaves.

Mr. Riehl — Do not think the scab on the apple is caused by London purple, it is a fungus growing on the fruit and can be scratched off, showing the green skin underneath. If caused by the London purple the skin would be destroyed. But the London purple, if applied too strong, will burn the foliage and fruit too. Its use is not satisfactory and I think the white arsenic applied, one pound to 400 gallons of water, is cheaper and better in every way.

Mr. Pearson — I think the Janet crop, generally, is very light, and as a large share of the trees in this vicinity are Janets, the result is that our apple crop is a small one. My Wine Saps are also very poor, and I intend to grub them out. They have not paid me for the ground they stand on.

Mr. O. A. Snedeker — On the 12th instant I ate some peaches called Arkansas that were as good as Early York.

Mr. W. H. Fulkerson — From my observation, I should judge there would be about a half crop of apples in Jersey county this year.

VINEYARDS.

Mr. Jackson — My grapes have about all rotted, except a few down in the bottom of a hollow; and I know not how to account for their escape, unless it be that during the cool nights of June the temperature fell below sixty degrees, and destroyed the rot.

Mr. E. A. Riehl — My grapes are nearly all gone, except Jewell, Cynthiana and Marsala, which have not rotted very much. This has been the worst year for rot that I have ever known. Where the bags were good, and were put on well and in time, the grapes are all right, but it is very difficult to get bags that will stand the rough usage of the weather. I do not think that bagging will pay, unless one has but little other work, and can attend to it at just the right time. I shall give up growing them on a large scale. I experimented a little with putting on the bags before blooming, and found that some varieties, such as Worden, Cynthiana, Niagara, Etta, Concord, and all of the Labrusca family are self-pollenizing, and with these it will work all right; but Vergennes, Goethe and Wilder did not pollenize well.

Mr. Browne — I will have about half a crop in the bottoms. I think that it was one cool night which saved them.

Mr. Pearson — I have not been through my vineyard lately, but, judging from the appearance of the grapes on the end, I should think that I will have a fair crop.

SMALL FRUITS.

BY J. S. BROWNE, ALTON.

Mr. President: In reporting the results in testing some of the newer varieties of strawberries during the past season, it will, probably, be well to state that they were given no extra attention, but were planted in the middle of the patch, and received neither more nor less care than the balance. The soil had been enriched with barn-yard manure, at the rate of about seventy-five loads per acre.

Monmouth — This was the first to ripen, the first ripe berries

were picked May 28, five days earlier than Capt. Jack. For an early berry for the home garden, or where an extra early berry is profitable to raise for market, this variety deserves a trial. It is a strong-grown fruit, of large size, of good quality, but is not productive enough for the market grower.

Bubach — This berry is, all things taken into consideration, the best in the list, of the largest size, ripens evenly, very productive, more so than any large berry I have ever grown, holds out large to the last and a very strong grower. The only faults it has shown are: It is a little too soft for long carriage and is not of the best quality: this latter fault does not amount to much, for consumers have not yet come to the point where they are willing to pay for quality in a strawberry; as for the former it can, in a great measure, be overcome by careful handling.

Lida — This is the most productive of any variety tested, not as large as Bubach, but a better yielder and firmer; of about the same quality; vine not as strong a grower, but will make plants enough.

Mammoth — Nothing mammoth about it except the size of the swindle perpetrated when this variety was disseminated. A few good-sized berries, but precious few.

Copanzick — Worthless for any purpose.

Garibaldi — Of fine quality but makes such feeble growth that it is worthless.

Gandy's Prize — A fine late berry for family or market; first ripe berries June 12th, fifteen days later than Monmouth; of large size, very strong grower: fairly productive and of good quality.

Great Ontario — So very little different from Sharpless that it would require an expert to show it, both having the same faults and virtues.

Garretson — Nothing to recommend it. Hundreds of better varieties have been discarded.

Jessie — This variety has been advertised more extensively than any other on the list. The plant is a strong grower, only fairly productive, large size, ripens evenly, best quality of any on the list, but has too many small berries towards the last. The blossom is perfect and will do first rate to pollenize Bubach and Lida, as they all bloom at the same time.

Mr. Jackson — The Snyder blackberry, when properly cultivated, will sell as well as any. With me they have always marketed as well as Kittatinny and Lawton, and they are a sure crop.

Mr. Davis — I can grow a crop of Lawton whenever Mr. Jackson can grow one of Snyder, and I am satisfied that I can sell them at better prices.

Mr. Riehl — I think I am just learning how to prune blackberries. I have noticed that the small canes are always loaded with fruit, while the large ones bear but lightly, and I believe that if we would prune closer we would get more berries. I began this year by cutting down the young canes to eighteen inches, then I cut the laterals off about a foot from the main stem, and if they grow again I cut them off about six inches long. By so doing you secure light young branches on a good strong stem, and I am satisfied that they will produce more and better berries. Besides, this will induce a late fall growth which, I think, will stand the winter better than wood grown earlier in the season.

Mr. Davis — The crop of Lawton and Kittatinny this year is mostly on second growth canes. It is a little late, but the berries are fine and ought to bring fair prices.

Mr. Jackson — I cut down some Kittatinnys that were rusty, instead of digging them out as we usually do, and the young canes that came up from the roots are perfectly free from rust.

Mr. Riehl — I believe that if we will look about us a little when in the woods we can find blackberries growing wild that will prove better than any we now have.

CULINARY VEGETABLES.

Mr. Pearson — This has been an excellent season for all kinds of vegetables, and he who hasn't a good garden this year does not deserve one. What is a fair per cent. of good heads on cauliflower?

Mr. Browne — About ninety-five per cent.

Mr. Riehl — I should like to have Mr. Browne tell us how he grows egg plant.

Mr. Browne — The main requisite for growing it successfully is lots of heat. We usually sow the seed in hot beds about the latter part of February; then we transplant in hot beds twice before planting out, which is done about the time when strawberries begin to ripen. Before removing from the hot beds we flood them with water; then cut the plants out in squares with a sharp spade, and remove them with the earth attached to the roots, to the field, where holes are already prepared for them.

At this point the society adjourned to meet at the call of President and Secretary.

Most of the old folks went home in the evening at the usual hour, but the young people stayed for a moonlight picnic and general merry making, which was thoroughly enjoyed by all until the eleventh hour.

When all took up their homeward way
By the light of the waning moon,
Regretful that so bright a day
Should have passed away so soon.

SEPTEMBER MEETING.

The Alton-Southern Illinois Horticultural Society held a basket picnic at the residence of James Davis, near Godfrey, on Saturday, September 8th.

It was one of those perfect days that usually smile upon the meetings of our Society, and the attendance was large. The fruit display was excellent, and — but we are anticipating the reports of the Awarding Committees.

Mr. E. A. Riehl opened the discussion on Orchards with the following paper:

REPORT ON ORCHARDS.

The year 1888 will long be remembered as one of great fruitfulness. The winter left the buds uninjured — the peach, partly, excepted,— and no frosts destroyed them in the spring, and abundant rains through the summer carried the fruit to a size and perfection seldom seen before. The scarcity of fruit last year and before, so reduced the fruit-destroying insects that fruit of all kinds is more free from insect injury than common.

The plum crop has been the largest and best I have ever known, and the same can be said of the pear. Prices, of course, have been lower than usual, but yet, where properly handled, the crops have been profitable. Now is a good time to discuss varieties of plums. I grow none, so will let others give their experience concerning this fruit.

Of pears, I have found Howell, as in years past, the most profitable. It is larger and better than the Bartlett, and later, which is an objection. The tree is a fine grower, very productive and with

me the least subject to blight of any that I cultivate. Mt. Vernon gave me an immense crop of fine pears, of very good quality. Pears, if properly grown, are profitable; the early varieties more so than the later ones. We should plant something earlier than the Bartlett that is of good size and quality. Most early pears are either too small, or too poor in quality to be profitable for market.

Of peaches I have had about a half crop, which is about double the average for this locality. The fruit has been large, well colored, and quite free from insect injury, but in flavor not as good as usual, owing to the abundant rains and cool weather at time of ripening. The smallness of the crop is owing very much to the planting of tender varieties like the Crawfords, which, being tender, usually set a very light crop of fruit and on that account attain a large size, hence, sell well in market and are therefore largely planted. I think a better plan is to plant hardy varieties and thin the fruit. Most varieties can be made large by proper thinning; even seedlings can be made very respectable. As to the labor involved, it is but a trifle, compared with the good resulting therefrom. Those who have never done any thinning think it a far greater job than it really is. The fact is it is less labor to thin the fruit while young than it is to pick it when it is ripe. In the first case it is only necessary to pick the fruit off and let it fall to the ground. In the second it is put into a basket and taken to the packing shed, sorted, and a large share is rejected as too small. And a share will go into the packages and be sent to market that should not be. A moment's thought ought to convince any sensible person that to thin fruit is less labor than not to do so. It is a satisfaction to market fruit, that you know is good, all through the package, and if you grow all good fruit, you won't be tempted to put the poor in the bottom out of sight.

At the last meeting I said I did not expect to find any really good peach earlier than Early York, but I will take it all back, there are two that have proved earlier and in some respects better than the old favorite. Amelia and St. John are both earlier, large and of the best quality. They have no fault and should be largely planted wherever it pays to grow peaches. The Chinese Cling and its seedlings, Gen Lee, Family Favorite and Thurber, have been very satisfactory, being hardy, productive, fine color, and of the largest size, but to my taste not of the best quality. George the Fourth has been, like in the past, one of the best, and no orchard should be without a good share of it. The same of Old Mixon and Stump. Shippley's Late Red proves to be a very desirable peach, large, hardy, productive, best quality and ripens at a time when there are few good peaches. Great Western, a white cling like Heath, but ripening earlier, shows great hardiness and productiveness, and should be largely planted. Small trees two years planted are loaded with fine fruit. Wilkins, a seedling of Heath Cling and like in every way except double the size and

a hardy tree, should entirely supercede that old favorite. The apple crop is variable, good in some neighborhoods and orchards and not in others. On the whole the crop promises much better than it did at the last meeting.

Mr. J. M. Pearson — Some years ago I planted a few trees of Clapp's Favorite pears. They are earlier and larger than the Bartlett, but do not sell as well. Think there is no pear that will pay better than the Bartlett. I believe that the Howell is generally smaller than the Bartlett. Am I right?

Mr. S. F. Connor — Generally the Howells that come to market don't compare in size with the Bartlett, nor do they sell as well. Clapp's Favorite is positively of no value whatever for market. When ripe it is too soft to be handled, or even eaten.

Mr. Pearson — My Bellflower and Jonathan apples are dropping badly. How soon may they be picked?

Mr. Riehl — Think they are ripe enough now. Any apple is ripe enough to pick when the seeds are black.

Mr. Wm. Jackson — I did not pick my plums at all this year — let them fall off. I have blue grass sod under the trees so they were not hurt in falling, and I believe they were better and sold better than if I had picked them. Mariana, is a new plum of which we know little as yet, but from what I have seen of it, fear it will be a light bearer. The Weaver is one of the best of red plums, but the skin is too thick. I think it is best to graft plums on peach stock. If this is done you will never be bothered with suckers.

Mr. Pearson — I cannot understand how anyone can plant Wild Goose or Weaver, when Damson is so easily grown. They will grow from slips and bear three years after setting, and are certainly far superior to anything else. A full grown tree can bear several bushels of plums. The only objection to them is that they are hard to pick. If plums are desired for cooking, Mr. Jackson's plan of letting them drop from the trees, will not work, as they are too soft for culinary purposes.

Mr. J. S. Browne — If a late plum is desired, Golden Beauty is several weeks later than Damson, and of the finest quality. Damsons are generally picked before they are ripe.

Mr. Connor — Red plums are generally no good for market, won't bring fair price. Damson nearly always will.

At this point the announcement of dinner was received with general acclamation. While this interesting topic was under discussion the Secretary overheard a visitor remark that there was more good-natured bantering, more original wit and more thorough enjoyment to be had at a horticultural meeting than any other place he knew of. And who shall gainsay it?

VINEYARDS.

Mr. H. G. McPike — Our main object in growing grapes now is to find a good variety that will resist the rot and combine the good qualities of the Concord and Norton's Virginia. I am devoting my vineyard entirely to this end. Last year I grafted most of my vines over, and most of them have borne this year. But I do not think that they have had a fair test yet, as most of the grafts grew so fast that the wood did not develop well.

SMALL FRUITS.

Mr. Browne — There is no use mulching berries this summer as they will keep damp enough without. Think the best thing that I have yet found for cultivating strawberries is a one horse harrow. It keeps the ground loose and throws no dirt on the rows. The prospect for a crop of strawberries next year is very good.

Mr. John Riggs — From what I have seen I think the prospect for a good crop of berries next year could not be better.

Mr. Jackson — I have done some mulching this season as an experiment and to keep the weeds down and prevent the runners rooting. Have used the Planet Jr. Horse Hoe for cultivating strawberries, and am well pleased with it.

JANUARY MEETING 1889.

The Alton-Southern Illinois Horticultural Society met at the office of Mr. E. J. Hull, on Saturday, January 5th, with President Browne in the chair. Minutes of last meeting read and approved.

ORCHARDS.

Mr. E. A. Riehl reported that all fruit trees had made a good growth, ripened their wood perfectly and so far this winter the weather had been unusually favorable, and not a bud of any kind of fruit was injured, and the prospect for a good crop of fruit never was more favorable at this time of the year. So long as this open weather continues all kinds of trees, vines and plants can be pruned.

Some persons are fearful that this mild weather will cause the fruit buds to swell and that they will be killed by cold later in the season. But such is not the case. While this is warm weather for winter, yet the thermometer does not rise much above 60° Farenheit by day and there is usually frost every night and so long as this is the case there is no danger. It is only when the weather is moist and the thermometer rises near the eighties by day and there is no frost at night, that the buds swell and are then easily killed by subsequent cold.

Mr. Jas. Davis — I think I never saw fruit trees of all kinds go into the winter in better condition than they did last fall.

At this point Mr. Riehl opened a basket of seedling and new apples from Mr. E. F. Babcock, of Arkansas, which were duly examined and tasted by the members present. On motion Messrs. Riehl, Hollard and Jackson were appointed a committee to report on these apples at the next meeting, and recommend such for trial as in their judgment were worthy. Mr. Riehl showed some apples that were colored a deep solid red on one side and striped a lighter shade on the other. Some claim this is caused by cross pollenization. But so long as no better proof was brought forward than he had yet seen he could not believe it, as such an explanation was contrary to his understanding of vegetable physiology. Considered such colorings simply freaks of nature, known in horticulture as sports.

Mr. Pearson — What is the cause of sports?

Mr. Riehl — That I cannot say positively, sometimes it is caused by disease, sometimes it is but a variation from the normal type.

SMALL FRUITS.

Mr. J. S. Browne, reported all small fruits in the very best condition. Now when the ground is frozen is a good time to mulch strawberries.

The society now proceeded to the election of officers for 1889, and elected,

President — Wm. Jackson.
First Vice-President — J. S. Browne.
Second Vice-President — E. A. Riehl.
Secretary — F. C. Riehl.
Treasurer — S. F. Connor.
Librarian — H. G. McPike.

The Treasurer reported a balance of $72 on hand in the treasury.

TRANSACTIONS

OF THE

TWENTY-FIRST ANNUAL MEETING

OF THE

HORTICULTURAL SOCIETY OF NORTHERN ILLINOIS.

HELD AT GALENA, SEPTEMBER 4TH, 1888.

REPORTED BY E. W. GRAVES, Secretary.

OFFICERS FOR 1888.

President—A. BRYANT, Princeton.
First Vice-President—J. V. COTTA, Nursery.
Second Vice-President—H. C. GRAVES, Sandwich.
Third Vice-President—D. J. PIPER, Forreston.
Secretary—E. W. GRAVES, Sandwich.
Treasurer—L. WOODARD, Marengo.

LIST OF MEMBERS.

Boone, Charles.....Warren.
Bryant, Arthur.....Princeton, Nurseryman.
Cotta, J. V.....Nursery.
Galusha, O. B.....Peoria.
Graves, E. W.....Sandwich, Nurseryman.
Graves, H. C.....Sandwich, Nurseryman.
Hallett, Timothy.....Galena.
Hansen, Henry.....Galena.
Hunt, George.....Port Byron.
Piper, D. J.....Forreston, Small Fruits.
Whitney, A. R.....Franklin Grove, Cider and Vinegar.
Woodard, L.....Marengo.

HONORARY MEMBERS.

Bryant, Mrs, Arthur.....Princeton.
Burnes, Mrs. T. W.....Galena.
Clower, Mrs. S. H.....Galena.
Crummer, Mrs. W. T.....Galena.
Godfrey, Mrs. H. T.....Galena.
Woodberry, Mrs Geo. E.....Galena.

PROCEEDINGS.

OF THE

Horticultural Society of Northern Illinois.

The Horticultural Society of Northern Illinois held its Twenty-first Annual Meeting in Turner Hall, Galena, commencing at 10 o'clock, Tuesday morning, September 4, 1888.

Third Vice-President, J. V. Cotta, called the meeting to order, that duty having fallen to him, owing to the death of D. W. Scott, President, and the absence of the first and second Vice-Presidents.

Mr. Bryant moved that a committee be appointed on order of business, also a committee to draw resolutions on the death of President Scott. Motion prevailed, and the following committees were named :

On Resolutions: A. Bryant, J. S. Rogers, Mrs. W. F. Crummer.

On Order of Business: E. W. Graves, A. R. Whitney, D. J. Piper.

It was suggested that while the Committee on Order of Business were making up their report, the Society take a short recess, and the Chairman so ordered.

The committee signifying their readiness to report, the President called the meeting to order again and the following Order of Business was recommended :

First — As the attendance was small, and the probabilities were that more would be in for the afternoon session, the committee proposed an adjournment until two o'clock, and that the following programme be taken up at that hour.

Treasurer's report.

Secretary's report.

Report of committee on resolutions.

Election of officers for the ensuing year, and place of next meeting.

Discussion of the topics named in the printed programme, to be taken up in their order.

On motion the report was adopted and adjournment was taken until two o'clock.

TUESDAY AFTERNOON.

Mr. Cotta called the meeting to order, and prayer was offered by the Rev. Hutchison, following which Mr Cotta begged to be excused from acting as Chairman of the meeting, on account of his being in poor health; he having left home against his better judgment, as he was just recovering from an illness of a week or more, and did not feel able to assume the duties of President. He called on Mr. A. Bryant to take the chair and act in his place, whereupon Mr. Bryant assumed the duties of President and called for the order of business as laid down by the committee. The Treasurer's report being the first thing on the program it was read by the Secretary, Treasurer Woodard being absent.

TREASURER'S REPORT.

L. Woodard *Treasurer, in account with*
Horticultural Society of Northern Illinois.

1887.	DR.	
Jan. 11.	By cash balance on hand	$123.94
Jan. 12.	By twenty-five memberships	25.00
Jan. 12.	By three memberships by letter	3.00
1888.		
March 9.	By State Horticultural Society	50.00
March 9.	By nine memberships by letter	9.00
		$210.94

1888.	CR.	
Jan. 12.	To J. L. Budd's bill	$ 27.23
Jan. 12.	To M. Barnard	3.00
Jan. 12.	To G. J. Kellogg's bill	1.75
Jan. 12.	To E. W. Graves postage	1.00
Jan. 12.	To E. W. Graves for filing report	25.00
Jan. 21.	To Cummings & Scott printing	13.50
Jan. 21.	To Kankakee Horticultural Society	6.00
Jan. 21.	To J. B. Babcock	1.50
Jan. 21.	To postage for year	1.00
Jan. 21.	To exchange	.25
Jan. 21.	To balance on hand	130.71
		$210.94

The Secretary moved that the report be referred to a committee to act on, in the usual way.

Motion prevailed, and the chairman appointed the following committee: A. R. Whitney, J. V. Cotta, D. J. Piper.

Mr. Hallett — I am sorry that I am unable to express my feelings of sorrow and regret at the death of our venerable and beloved friend and co-laborer, Mr. Scott, who has been one of our most active members, and one who always took a lively interest in all horticultural gatherings. He was always ready to do all the work and assume all the responsibility of arranging the meeting in our local society at Galena. The arrangements preparatory for the present meeting had all been left to him, as he was willing at all times to carry the load. But, alas! he has been taken away in the midst of his labors, and the arrangements have never been completed as they would have been had he lived. The consequence is, nothing is prepared, as those interested in horticulture, about Galena, have been so paralyzed by the sudden death of Mr. Scott, that they have not fully come to realize the necessity of their taking hold of the work where he had left it, and completing the arrangements for the meeting. No one regrets more than I that such is the condition of affairs.

Mr. Whitney — The committee on the treasurer's report is ready.

Chairman — It will come in as well now as any time.

Mr. Whitney — Your committee has compared the vouchers with the report, and find that the figures agree, and everything is correct.

Mr. Hallett — I move that the report be accepted and the committee discharged.

Motion prevailed.

At this point the Chair suggested that a little deviation be made from the general order of business prescribed, and some of the topics mentioned in the printed programme be taken up for discussion, deferring the election of officers for the following year, until later in the day, which was agreed to, and the subject of the decline of apple orchards was taken up.

Mr. Hallett — I think the apple orchards of this vicinity are declining rapidly, and there is little encouragement for us to plant more.

Mr. Bryant — Orchards in our vicinity, you might say, are declining some; still there are a good many trees bearing full this year, but they have not done well in the last five years. We still have hopes that they will do better from this on.

Mr. Boone — I am sorry to hear Mr. Hallett say that apple orchards are declining, as I think they have reached the turning point and the orchards are going to do better than they have for the last few years, and I think we should continue to plant. I would like to have some of the nurserymen say what are the best kinds for us to plant. I want half a dozen of the very best, those that are ironclad or as nearly so as they are to be had. I have noticed, in my orchard, that the trees that were top-grafted withstand the winter better than the root-grafted trees, and are longer lived.

Mr. Hallett — I would not plant anything but the Duchesse, Willow Twig and Red Astrachan. The latter is not so good a bearer as the others, but is comparatively hardy with me.

Mr. Whitney — With us the Snow apple is hardy and bears well. The Roman Stem is our best and hardiest apple.

Mr. Bryant — There is a good deal of call for the Roman Stem trees at the present time, and the trees are standing very well over

the country. I don't know why it is, but the trees that we used to consider were not hardy, are now standing the winters the best, and those we used to consider were perfectly hardy, are now going back on us. In some orchards the Willow Twigs are looking fine and doing well; in others, they are all dead. Trees in the nursery have done much better for the past few years and I feel considerably encouraged. I hardly know what you would call ironclads, as some kinds do well in some localities and poorly in others.

Mr. Cotta — I have none of our native kinds that I could recommend as ironclads; am of the opinion that hardiness is only a matter of locality. I think the Duchesse might be called an ironclad, but when it grows very late in the fall, it is liable to be hurt with the winter. Under ordinary circumstances, it ripens very early and goes into winter in very good shape. I had five Willow Twigs that bore one bushel of apples per tree and sold them for $1.00 per bushel; that would be a good variety for profit, if they would bear that way every year, or every other year.

Mr. Boone — Is it necessary to renew our orchards with manure, and if so, what is the best to use ?

Mr. Bryant — There is no question but that we must renew our orchard ground with some kind of manure, and that from the barnyard I consider best. You can't expect to grow a succession of crops on the same land without using some kind of a fertilizer.

DISCUSSION ON STRAWBERRIES.

Mrs. Crummer — The Crescent Seedling strawberry has proven to be the greatest success of any we have ever tried, and we have experimented with a good many kinds. It seems to be the best adapted to our clay soil of anything.

Mr. Boone — The Crescent has been our most successful berry. Would like to ask Mrs. Crummer how they plant and grow their berries.

Mrs. Crummer — We plant in rows, making every third row of a good fertilizer, such as the Captain Jack, think that is the best. Miner's Prolific is a good one, and blooms about the same time as the Crescent.

Mr. Boone — I was much disappointed in the Jessie. I saw some of them growing this summer, and found the leaves looking rusty. They had made a poor growth and did not look at all healthy or prolific. Saw other varieties, alongside of them, looking vigorous and healthy, and bearing full fruit, a far better crop than the Jessie.

J. V. Cotta spoke in glowing terms of a strawberry that originated with Mr. Piper which was not yet on the market, called the "Great Pacific." It is a vigorous grower and a great bearer.

Mr. Piper — In regard to the Great Pacific, I must say that it promises the best of anything I have ever tried or had on my grounds, and is the heaviest bearer I ever saw. Bubach No. 5 does not yield well with me. Have fruited it for three years.

Mr. Bryant — Strawberries do so differently on different soils, that the kinds which do well with some do nothing with others, and it is hard to get a variety that is a success everywhere.

At this point the discussion was closed and the committee on resolutions being ready, their report was called for and the following resolutions were adopted by a rising vote:

WHEREAS, It has pleased Almighty God to remove from our midst our respected president, D. Wilmot Scott, therefore be it

Resolved, That the Society has sustained the loss of a faithful officer and an earnest friend of every good work, and that we feel that his place cannot be filled.

Resolved, That we deeply sympathize with his afflicted family in this, their hour of grief and, with them, bow to the will of our Heavenly Father.

Resolved, That the Secretary be instructed to place these resolutions on the records, a copy to be sent to the family of our departed and, also, a copy to the local papers; also, be it

Resolved, That in the death of Milo Barnard, President of the Illinois State Society, we have lost one of our most energetic and enthusiastic horticulturists, who, if he had lived, promised to be one of the most efficient workers in the State.

Resolved, That we extend to his family and numerous friends, our warmest sympathies in their great affliction.

The Chair announced that the next thing in order was the election of officers for the ensuing year.

Mr. Rogers, of Marengo, moved that a committee of two be appointed by the chair to select a list of names for the officers, and present same to the society for approval, which motion prevailed and the chair appointed Mr. Rogers and Mr. Cotta on that committee.

After some discussion it was decided not to hold another session but to adjourn *sine die* at the close of the present session.

The committee on the election of officers for the ensuing year reported as follows:

President — A. Bryant.
First Vice-President — J. V. Cotta.
Second Vice-President — H. C. Graves.
Third Vice-President — D. J. Piper.
Secretary — E. W. Graves.
Treasurer — L. Woodard.

Mr. Hallett moved that the Secretary be instructed to cast a vote for each of the parties named to fill the several offices as mentioned, for the ensuing year, which motion prevailed.

Mr. Hallett offered the following resolution, which, on motion was adopted.

WHEREAS, Our Illinois State Agricultural Department, under the supervision of John S. Cassidy, of Springfield, has done valuable service for farmers of the state, by sending out blanks calling for the weekly reports concerning the condition of various products, such as corn, wheat, oats, etc., but only calling for fruit statistics under the general term fruit, and

WHEREAS, We believe a great amount of useful information could be imparted not only to fruit growers throughout the state, but also all classes of intelligent people, if similar weekly blanks should be furnished to those especially and exclusively engaged in the fruit culture, calling for reports of the condition of the various fruits, such as currents, gooseberries, strawberries, blackberries, raspberries, apples, plums, cherries, etc., therefore

Resolved, That we, the members in attendance of the Northern Illinois Horticultural Society, do hereby authorize and request our Secretary to lay the matter before the proper authorities, and request them to send out such blanks to the various fruit growers throughout the state of Illinois for next year's use.

Mr. Rogers moved that the time and place for the next meeting be left with the Executive Board, which motion prevailed.

The following resolutions were adopted and on motion of Mr. Rogers, the meeting adjourned, *sine die*.

FINAL RESOLUTIONS.

Resolved, That the thanks of this society are hereby extended to the ladies for their decorations in the hall, and especially for the memento of our late president.

Resolved, That we assume all the expense for the hall and janitor work

A. BRYANT.
MRS. CRUMMER.
J. S. ROGERS.
Committee.

Transactions of the ....

TWENTY-SECOND ANNUAL MEETING

OF THE

HORTICULTURAL SOCIETY

OF NORTHERN ILLINOIS,

HELD IN

FRANKLIN GROVE, JANUARY 9 AND 10, 1889.

Reported by E. W. Graves, Secretary.

OFFICERS FOR 1889.

President — A. Bryant, Princeton.
First Vice-President — A. Dunning, Dunning.
Second Vice-President — J. V. Cotta, Nursery.
Third Vice-President — N. A. Whitney, Franklin Grove.
Secretary — E. W. Graves, Sandwich.
Treasurer — L. Woodard, Marengo.

LIST OF MEMBERS FOR 1889.

Abbott, F. B.....Bandow.
Austin, A. B.....Downer's Grove.
Bryant, A.....Princeton.
Bryant, L. R.....Princeton.
Bryant, H. G.....Princeton.
Cotta, J. V.....Nursery.
Cotta, H. R.....Freeport.
Dunning, A.....Dunning.
Dysart, B. J.....Franklin Grove.
Gall, J.....Franklin Grove.
Graves, E. W.....Sandwich.
Graves, H. C.....Sandwich.
Hansen, W. H.....Franklin Grove.
Huber, T.....Illinois City.
Johnson, F. C.....Kishwaukee.
Lahman, D. J.....Franklin Grove.
Minkler, S. G.....Oswego.
Parlin, C. E.....Franklin Grove.
Pennington, L. S.....Sterling.
Periam, Jonathan.....Chicago.
Piper, D. J.....Forreston.
Prescott, C. W.....Marengo.
Rice, A.....Davis Junction.
Sanders, Edgar.....Chicago.
Scott, T. W.....Franklin Grove.
Shimer, Mrs. F. W.....Mt. Carroll.
Vaughan, J. C.....146 and 148 Washington St., Chicago.
Whitney, J. R.....Carroll, Iowa.
Whitney, A. R.....Franklin Grove.
Whitney, N. A.....Franklin Grove.
Wicks, W.....Mt. Carroll.
Woodard, L.....Marengo.

PROCEEDINGS

OF THE

Twenty-Second Annual Meeting

OF THE

Horticultural Society of Northern Illinois.

The Horticultural Society of Northern Illinois, convened for its Twenty-Second Annual Session, in Masonic Hall, Franklin Grove, January 9th, at 11 o'clock, President Bryant officiating.

The meeting was opened by prayer, offered by the Rev. Anthony, after which the President introduced Mr. W. C. Scott, of Franklin Grove, who read the following:

ADDRESS OF WELCOME.

BY W. C. SCOTT, FRANKLIN GROVE.

Mr. President, Ladies and Gentlemen of the Northern Illinois Horticultural Society:

The pleasure of extending to you the good wishes and kind hospitalities of our people is one that, although unexpected, is very sincerely appreciated by me; and whether the honor comes from an over-estimate of my ability by some member of your Committee of Arrangements, or from that oft-time attributed source of many things, unexpected good luck, it is very gratifying in this home of the Pioneer Nurseryman of Northern Illinois, Father Nathan Whitney, to welcome and bid God speed to a society which has done so much to develop the beauty of our Garden State, and to whom our people owe so much for many of those comforts of life and embellishments of homes that make the people of Illinois the happiest, and their homes, the best adorned, of any in our fair land.

The pioneer settlers of Illinois naturally selected their homes near the groves and timber-bordered streams, both for the advantage of wood for fuel and for material to fence their farms. The wide prairies were then shunned, except in locations that became camping

places for the caravans of settlers going to and coming from the nearest towns, in which they could touch civilization and find a market for their farm products.

The first settlers found a sorry substitute for the fruit of their eastern homes, in the native crab and thorn apples, and in wild plums which grew in the groves and along the streams. Their "cup of joy" was not filled until, in addition to the abundant harvest from their fields, they could pluck the sadly-longed-for apple, peach and pear of their former homes from trees of their own planting, and could see their children reveling in such fruit feasts as had gladdened the homes of their own childhood. By the enterprise of the pioneer horticulturists, this happy change was attained, and, though their efforts in cultivating suitable hedge stock for fencing the almost limitless open prairies, the settlement of these prairies was made possible, and not only that, but the adornment of those prairie homes was made complete, in shady comfort, by quick growing trees, to cool the surrounding grounds in the summer's sultry days, and every variety of evergreens to add beauty by their dark-green foliage, and to afford generous wind-breaks to winter's cold blasts. The horticulturists did all this in developing the comforts and beauties of our early Illinois homes, and "grew not weary in well doing," but found new fields for usefulness continually opening; selecting the most suitable and best adapted fruit varieties, devising the best plan for cultivation, combating all the drawbacks of early decaying orchards, whether from the rapid growth, unduly stimulated by our rich Illinois soil, or from the vexing invasions of ravaging insects or vermin.

Not only has it come within the province of your researches to study the chemistry of the soil, the life and characteristics of the various insects and vermin foes, but the comparative good qualities of the feathery tribes that lend their aid to the toiler man in destroying the various insects that ravage his industries, and add vexation to his inherited curse. "In the sweat of thy face shalt thou eat bread."

The labors of the Horticultural Society have not been confined to the the development and direction of forest, fruit and garden culture, nor to the adornment of homes, with the rarest and most pleasing plants and flowers; and I think the older members of your honored Society will sustain me in giving to it the honor of founding that kindred Society, that has done so much toward placing the State of Illinois in the front rank of the agricultural States of our country, "The Agricultural Society of the State of Illinois." Some of your members have been and are now in the advance in introducing and propagating the best breeds of farm stock, and share largely in the honor of placing the product of Illinois first among that of the stock raising States of our land. In this, and in all

branches of products of the farm, the garden, and the orchard, the fruits of your earnest endeavors are shown. The labors performed in your conventions, comparing notes, not theorizing, but weighing reports of practical experience, embracing in your contemplations the best development of a scientific knowledge of all the facts bearing upon the interests and happiness of your fellowmen, have brought your work to that point of indispensible utility, that should command the admiration and gratitude of all benefitted by your labors. Hoping your sessions may be pleasant and profitable, I again welcome you in the name of Franklin Grove's hospitable homes.

As many of you are successors of the Pioneer Horticulturists of Northern Illinois, and hold in treasured remembrance the names of many departed co-laborers, keeping alive their zeal in this good work, so may we hope that those who follow you will emulate your example and never suffer the Horticultural Society of Northern Illinois to lapse into "inocuous disuetude."

President Bryant responded as follows:

Your well chosen, and kindly spoken words of greeting, will certainly help to renew our zeal in this work, and make us feel that we are in a community that is interested in our labors, and one that will appreciate the work that we do.

Again, allow me to thank you for you pleasant greeting, and to close with the hope that our deliberations may be harmless and profitable to all. In the name of, and for the members of this society, I return you Sir, very many thanks for the cordial welcome, kindly greeting, that you have given us in behalf of the citizens of your pleasant town. As a society we have met with you three times before, and have always been royally entertained. In agricultural and horticultural pursuits your citizens have always been successful, and seem ever ready to further any plan to develop these interests.

There being no committees to appoint, and the business as laid down in the programme for the forenoon session, having been disposed of, the President read two letters, one from O. W. Barnard and one from Samuel Edwards, after which the society adjourned until 2 o'clock P. M.

To the Members of the Horticultural Society of Northern Illinois.

Gentlemen:—Regretting my inability to be with you on the occasion of this meeting, I submit the following questions for consideration.

1. Does any member of this Society know what the Experiment Station at Champaign is doing with reference to the development of a winter apple, equal to the Duchesse in bearing and staying qualities adapted to the wants of the Northwest?

2. Is the "seed question" now being discussed by the Horticulturists of the State, one of vital interest to the development of such an apple?

3. Does any member know what the results of the experiments conducted by Peter M. Gideon at Excelsior, Minn., where the Duchesse winterkills, are with reference to finding the desired specimen?

4. Is it not a fact that the experiments now being prosecuted by J. L. Budd with the Russian varieties at Ames, Iowa, are the only source to which we can look with any hope of success?

All of which is respectfully submitted, O. W. BARNARD,
Manteno, Ill.

E. W. GRAVES, ESQ., *Sandwich, Ill.*,
Secretary Northern Illinois Horticultural Society.

Dear Sir:—This brief paper for your Society is sent with the view of meeting emergencies, when for good reason it may be desired to put its lesson into practice. To meet with you all at what may be at least appropriately styled one of your headquarters, to greet once more the veterans and to welcome the new recruits, to learn the valuable lessons to be gathered from the years' experience of so many careful practical men, are inducements for attending your meeting, which it would require more than ordinary reasons for absence. We are to be at the time moving into our new home.

You will all miss one beloved by all whose presence, ever radiant with cheerfulness, added far more than an average share of interest to your gatherings.

It was my good fortune to first make his acquaintance at the initial meeting of your Society at Mount Carroll, and in my pilgrimage of three score and ten years (save one) no kinder, truer friend has been found by me than the late D. Wilmot Scott. His departure is to me, to all of you, fellow members, an irreparable loss as a brother. His active faithful continous services as Secretary of your Society, and to promote horticultural progress entitles him to grateful remembrance.

The late Milo Barnard, as a true man and as an excellent horticulturist was in the front rank. Few would be missed more than he.

Wishing you all a pleasant and profitable meeting with many returns,
Yours very cordially,
SAMUEL EDWARDS.
Peoria, Ill.

WEDNESDAY AFTERNOON.

Persuant to adjournment, President Bryant called the meeting to order promptly at 2 o'clock and the regular order of business, as prescribed in the printed programme, was taken up. First in order was the

PRESIDENT'S ANNUAL ADDRESS.

BY ARTHUR BRYANT, PRINCETON.

It is with feelings of sadness that I arise to address you at this time, knowing that, but for the intervening hand of Providence, it would have been the duty of another to have spoken to you at this

time; one who could, and would have done it in a much more pleasant and effective manner. Our society has lost in the last year two of its most active and efficient members. They were both enthusiastic and energetic horticulturists, just such men as are needed in our society. Mr. D. W. Scott had been an active member of this society ever since its first organization and nearly all that time had held the office of Secretary. Milo Barnard had not been connected with the society so long, but was an energetic, persistent worker, whose influence was felt wherever he was placed. We feel their loss keenly. As a society we seemed to need them much at the present time to help tide us over the present horticultural crisis. But this was not to be. They are gone, and let us devoutly hope that what is our loss will be their eternal gain.

Over twenty years ago this society was organized "for the advancement of Pomology and the Science of Horticulture," more especially in the northern district of our State. The members were very active and zealous in their work, the meetings were largely attended, and characterized by the energy and enthusiasm, not often found in such gatherings. The planting of orchards, gardens and groves was rapidly on the increase, and very many expected to reap large rewards from their investments in this direction. Some who were fortunate enough to plant early in the season of this boom, of fruit growing, gathered large harvests from their ventures, greater than they can ever expect to realize from that source again. Many causes combined to prevent the desired or expected success in the planting of these orchards. The severe winters and unfavorable seasons for the growth of our trees, the immense increase in insect enemies that prey on the foliage and fruit of the trees, the greatly increased facilities for transportation of products from localities more favorable to the production of fine fruit than ours, makes the business of growing fruit for market, in this portion of the country, of much less importance than it was hoped that it would be.

The age we live in is a wonderful one — noted for its rapid changes and developments — and in no part of the country are these changes more rapid than in this western world. Our modern railroads, telegraphs, telephones, etc., make the business methods and principles of twenty years ago, entirely out of date to-day. Then we depended on our own particular County or State for our supply of fruits and vegetables. Now the whole country, from Manitoba to Florida contributes to our need.

The writers on forestry of twenty years ago, by their tables of statistics proved that, within a short time, the supply of timber in our great forests — at the present rate of consumption — would last but a short time, that the forests in our own state were fast disappearing; in fact, that if we did not plant timber at once and extensively, we should within our own lifetime see a scarcity of wood for

lumber and fuel. But what are the facts at the present time. We find that though the increased facilities for cheap transportation, the improvements in the manufacture and use of iron and steel for fencing and building purposes, and not least, the great development of our coal mines for a supply of fuel, that lumber and wood is cheaper to-day than it was twenty years ago. But for all this, we, in this portion of the State, should continue to plant trees. We need groves of trees on all of our prairie farms, shelter-belts for the home, garden and cattle yards, and orchards to supply our families with the necessary health giving fruits of their season.

Without doubt, the majority of the commercial orchards and gardens of our state, will be in the central and southern districts, but we of the north, can and should grow our own home supply of fruit to a large extent. Especially is this true of the farmer and those who own small homesteads. Land, trees, shrubs, flowers and pure fresh air, are the materials furnished, with which to make pleasant homes. Surely it is a part of the duty of this society to aid the people in making the best use of them.

Among the people in general, there is a great lack of information on horticultural matters.

But few have much knowledge of varieties, or what to expect of the trees and shrubs that they have bought, or how best to plant and care for them.

This want of knowledge, coupled with what seems to be a natural propensity in all to desire to have some thing new or far-fetched and perhaps dearly bought, is the cause of much of the complaint among our people, that they have been unfairly dealt with by those who sell them trees.

I know of no better means of protection from imposition in this direction than for the people to post themselves on horticultural matters. How best to impart this much needed information is a subject that should receive careful consideration by our society. Some method should be devised to create a greater interest in our meetings, to secure a much larger attendance, and of course by that means increase the distribution of our reports. Let them become members of our society, carefully read the essays and discussions of our meetings and then use good common sense in making their purchases. The experimental stations provided for in every state, should and undoubtedly will be of great advantage to us as a society and as horticulturists. Let each member consider himself a committee of one to keep himself informed on what is being done at these stations and be prepared to discuss the subject or make suggestions in regard to the work to be done. Any suggestions or proposals for experiment could be made through the society. This would create a general interest in the work that might lead to great results. Within the past few years the subject of destroying the

insect pests on our fruit trees, by spraying with arsenical and other poisons has received much attention, and the experiments in many cases were attended with marked success. This seems to be the most effectual way to stop the ravages of the codling moth, canker-worm, curculio and many other of our worst insect enemies. With the great facilities for doing this work that are now at our command, I look for a considerable increase in the number that will apply these insecticides. If each one who experiments in this way would make note of any special or peculiar features or effects of his work, and report it, much valuable information might thus be derived.

Another extended field of work for our own and kindred societies, may be found in the eradication of troublesome and noxious weeds from our farms and also from the country and village roadsides. Good, well-cared for public highways are a sure indication of a thrifty people. During the last decade this western country has made very rapid progress in the improvement of its public roads. Very many of the larger towns and villages have graveled or macadamized their streets, and where material was easily procured, in many cases the roadways are graveled far into the country. But we need a change in public sentiment in regard to allowing so many vile weeds to grow and seed in our roadways and fence rows. Some townships have begun the work by instructing their Road Commissioners to carry out the law in regard to cutting out the weeds in the highways. If this was done, very soon we would find the farmers along the lines of these roads seconding their efforts, and taking care of the weeds on their farms; so that it would not be long before this evil would, to a great extent, be corrected.

Here is a fine opportunity for our society and its members to do missionary work, and one that may be productive of much good. There are many other subjects that I might mention, as worthy of your consideration. We have the promise of a well-attended and interesting meeting. The program is a good one, that if fully carried out, will give opportunity for much thought and discussion. I will not consume more of your valuable time, but close with the hope that each one will consider it his duty to do all in his power to make our sessions instructive and profitable.

Hon. Jonathan Periam said he thought there were some matters referred to in the President's address which were of exceeding interest to the Society, and would suggest that a committee of three be appointed by the chair to consider such points as they deemed of importance, and make a report of the same to the Society. A motion to this effect prevailed, and the chair appointed Jonathan Periam, J. V. Cotta and S. G. Minkler to act in that capacity.

TREASURER'S REPORT.

L. Woodard made the following report, after which, on motion of Mr. Minkler, it was referred to a committee in the usual way:

September 4, 1888.	Cash balance on hand	$130.71		
" 4, "	Memberships	2.00		
" 4, "	Memberships rec'd at Galena meeting	10.00		
September 4, 1888.	By cash paid A. L. Cummings		$	3.50
" 4, "	By cash paid for hall rent			6.50
" 4, "	By balance on hand			132.71
		$142.71		$142.71

Respectfully submitted,

L. WOODARD, *Treasurer.*

THE COMING APPLE TREE—HOW SHALL WE MAKE IT?

BY J. V. COTTA, NURSERY.

Mr. President and Fellow Members:—

Upon reviewing the ups and downs, the anticipations and disappointments, the successes and failures which mark the course of apple culture in the great prairie states, west and northwest of Lake Michigan during the past half century, we cannot help noticing in all varieties of common apples, a lack of adaptation to our climatic conditions, a want of power to resist the intense cold and the sudden and violent changes of the temperature in most of our winters, the great heat and severe drouths of our summers and the occasional excessively wet seasons which this western country is subject to.

Originated in the much milder climate of Western Europe where it has been cultivated for many centuries, the common apple was introduced into this country by the early immigrants from the British Isles, from France, Holland and Germany. Soon seedlings of these began to be grown and the varieties thus produced multiplied almost indefinitely. Many of these proved to be fruits of the highest quality and nearly all of them succeeded fairly well in our Eastern States. But upon their migration westward into a drier atmosphere, into a climate of more sudden changes of temperature, the trees soon showed signs of premature decline from the start. Our early western orchardists seeing this defect in their old favorites did not remain passive, quietly submitting to defeat. They reasoned like this, if we raise trees from western grown seed, such trees being "to the manor born" will prove themselves adapted to western conditions, and thus the varieties originally introduced from the east gradually gave

way to an assortment essentially western. But alas for human wisdom, the immutable law, that "like begets like" had been overlooked, our western pets have gradually but surely fallen victims to the same adverse conditions. The hope of growing hardy seedlings from tender parent trees has not been realized. The arctic waves of the memorable winters of 1882 to '83 and 1884 to '85 have so completely upset our preconceived notions and theories by the wholesale distruction of both orchard and nursery trees throughout the Northwest, that we are willing to admit the fact, however humiliating it may be, that we did not know how to grow an apple tree, and today we are willing to council with one another and inquire how the coming apple tree shall be grown.

In order to form an adequate idea of the difference that exists between our climate and that of Western Europe, the original home of the predecessors of our American assortment, and where they had flourished for many centuries, thoroughly acclimated to the conditions surrounding them, let us trace the parallel of Chicago, latitude 42, across the Atlantic into Europe. This line crosses Spain near Barcelona; it crosses Italy between Rome and Naples, and Turkey just a trifle north of Constantinople. Now, if you will consult the official meteorological records of both this country and Europe, you will find that the maximum cold of a Chicago winter corresponds very nearly with that of Moskow, Russia, in latitude 56, just an even thousand miles north of Naples, which means simply this, and nothing else, that our trees are at all times subjected to a powerful sun heat, like that of Central Italy — a country possessing a semi-tropical climate like our own Florida, and likewise they are exposed to the cold, dry atmosphere similar to that of Central Russia; or, in other words, the same extremes of sun heat and cold, for which a thousand miles of latitude are required in Europe, strike our western country on the same spot. Nay, more; inasmuch as corresponding latitudes of Western Europe have a milder climate than Central Russia, this difference is all the more striking.

Taking these simple facts into consideration, we will at once recognize good and sufficient reason for the unsatisfactory behavior of our trees, and when we further consider how prone they are for putting on a late second-growth in seasons favoring this trait, we might even consider ourselves fortunate that we can grow apples at all from this race. This tendency for a late growth is one of the worst features we have to contend with, immature wood being particularly liable to injury by frost action.

Had we no other types of apples in cultivation, beside the one we have thus far considered, the task of future improvement as to increased hardiness would be well-nigh a hopeless one; but fortunately we have in cultivation the Siberian Crab and the East European or so-called Russian apple, and these are destined to play a very

important part in the improvement of our common apple. The hardiness of the former cannot be questioned, and though it will never displace the common apple where it can be successfully grown, there are some varieties among them that make excellent stocks for top-working certain kinds of the latter.

The advent of the Russian type into this country is of comparatively recent date. It was first imported in quantity eighteen years ago, since which time frequent importations have been made, so the entire number of varieties on trial at present amount to about 500. Much has been expected from these foreign sorts; as yet, comparatively little has been realized. Many western horticulturists had hoped to soon displace our entire old assortment with these full-blooded Russians, but here again disappointment falls to our lot. While some quite valuable varieties have been found among them, the vast majority has proved unworthy of cultivation. As to hardiness the race stands far ahead of our old sorts; as to other qualifications it appears decidedly inferior. Many are shy, very shy bearers, many others are badly pre-disposed to blight; others again of notoriously poor quality, and the vast majority only summer and fall apples, no satisfactory winter apples having yet been found among them. What good we may be able to get out of the more recent importations from the interior steppe region of that country, and which have not yet fruited here, time can only determine. Meanwhile we shall have to "possess our souls in patience,"

As to the propagation of the apple-tree there are several modes practiced and, as might be expected, the advocates of each of these claim superiority for their preferences. Unfortunately, some of these have been run into a sort of "hobbies" by tree peddlers and are used as baits for catching "suckers." The general practice has been that of root-grafting, on sections of the root, by making about two four-inch cuts from a first-class seedling of one year's growth, the scion being cut the same length. If our trees could be depended upon for hardiness, this mode of propagation would be entirely satisfactory; as it is, it does not produce a reliable, long-lived tree of our old sorts.

Another idea is the use of a short root, two inches only, and a long, six-inch scion. For this, it is claimed, that the scion will emit roots itself, which places the tree practically on its own roots and increases its hardiness. As to plausibility, this idea seems correct enough, but practically considered, it does not hold good to any great extent. Some kinds do root readily from the scion, while others do not; and even if they all did, where is the proof of superior hardiness? Do you suppose "old Boreas" cares the snap of your finger whether your original root section was two, three or four inches long? When the arctic waves of our recent test winters struck trees thus propagated, if of tender or half hardy sorts, they

made a "clean sweep of them;" all, notwithstanding, our northern friends had laid great stress upon the value of a short root.

Two other hobbies have, of recent years, gone the rounds, and many thousand of dollars have been squeezed out of northern planters by interested peddlers "harping" upon the great hardiness and value of budded trees and on trees grafted on whole roots. Even the National Nurserymen's Association has been "soft-soaped" with eloquent essays advocating this precious idea as the *ne-plus-ultra* of apple culture for the cold North, and, still we are not happy. Do the perpetrators of these schemes not know that trees produced by either of these modes are even less hardy than those grown by piece-root grafting, inasmuch as the strong, sappy shoots that start out from the collar of a whole root, require a longer season to perfect and mature its growth than is needed for the less robust growing shoot of the piece-root graft? And does the public not know, that in spite of the extravagant claims made, many thousands of trees sold as budded, at exhorbitant prices, by those amiable fellows, are simply common root-grafted ones, cut off at the ground at one year old and started anew, which process makes them look for all the world like budded trees?

Let me tell you what I know about trees grafted on whole roots. You remember the introduction of the famous Mann apple some seven or eight years ago. It was claimed to be the coming apple — just what we westerners had been looking for, lo, these many years. As hardy as the Duchesse, an enormous bearer of large, delicious fruit, and the best and latest keeper in existence, and last, but not least, the trees all grafted on whole roots. I invested, the trees arrived direct from headquarters, and such roots — long, slender tap roots, a few of them forked but not a single one of them supplied with brace roots to anchor, or hold the tree firmly in place and as a result of such malformation the trees continually swayed about by the wind. I should have staked them but didn't, we don't want to stake our trees here, if they cannot stand up alone they may lie down to it. Well I repeatedly banked them up and firmed them as well as I could and they all made a good fair growth the first season. The following spring one-half of them did not leave out and the second spring I found that the balance had "given up the ghost." Now if you will invest in that class of trees you may reasonably expect to be quite as successful.

We have so far looked mainly upon the shady side of the picture, but as the darkest hour is just before daylight, we can already discern glimpses of the dawning of a brighter day. If you will turn to the transactions of the Iowa State Horticultural Society for 1879, you will there find the report of an investigation of the orchard of Drury Overton, near Knoxville. This orchard contained about 2,000 trees and was divided between root and top-grafted trees, the latter

on such hardy stock as were then available. In every instance the top-worked trees had been far superior in all respects to root-grafted trees of the same varieties: one William's Favorite, top-worked bearing as much fruit as five root-grafted trees of the same kind and age. In 1856 to '57, one hundred root-grafted Rambo were winter-killed, while two top-worked trees of the same kind and planted the same time escaped and were in 1879 still sound and vigorous, bearing plentifully. If you will take the trouble to visit J. C. Plumb at Milton, Wis., he will show you a top-worked tree of Ben Davis, on a cherry crab stock, this tree is in excellent condition, bearing fine annual crops as if no severe winter had ever existed. Not a single root-grafted Ben Davis orchard tree is alive in all Wisconsin outside of the Lake belt, and even as far south as Champaign, Ill., root-grafted trees of this variety have nearly all been killed. There are also quite a number of top-worked Ben Davis orchard trees in Champaign, Ogle and Stephenson counties, all of which have escaped our recent test winters and are in prime condition and very productive.

N. K. Fluke, of Davenport, Iowa, has for twenty years, experimented with top-working upon Virginia Crab stock, and has been very successful, even with such notoriously tender sorts as Stark and Chenango Strawberry. But the experience of our own A. R. Whitney, is perhaps the most valuable for the interests of apple culture in Northern Illinois. His top-worked Willow Twig trees, over forty years' old have been exceedingly productive. Their immense crops of large, showy fruit have for many years given evidence of the profitableness of apple culture in this part of our State, if rightly managed. Top-worked Red Astrachan trees have repeatedly yielded $30 worth of fruit in one season, while root-grafted Astrachans have not yielded fruit enough to pay for the use of the ground occupied. Mr. Whitney gives it as his experience that his top-worked trees have — on an average produced ten times as much fruit as root-grafted trees of the same varieties; and that he is making most excellent use of his experience is proven by the extensive plantations of new orchards he has made in recent years, largely of top-grafted trees.

During the recent test winters I lost by winter-killing not less than 40,000 root-grafted nursery trees; while standing in the same blocks, under the same general treatment and of the same varietes, I had several thousand top-grafted trees by way of experiment, and of these I did not lose a tree. Gentlemen, these things have made me very radical in my views. I would no more think of planting sweet cherries or peaches as a commercial venture in Northern Illinois, than to plant root-grafted or budded trees of any variety of apples less hardy than the Duchesse.

That failures have occurred with top-grafted trees cannot be denied, but these can invaribly be traced back either to a want of hardiness in the stock used, or to a want of affinity between stock

and scion, or to the use of stocks of too large a size, or to mismanagement in the process of growing the tree, or to some other valid cause, and not to the principle involved. It is claimed by some, that top-working, to be successful, must be done in the branches. Well, if any amateur or orchardist desires to do his own grafting, I have not the slightest objection, but if this work is to be done in nurseries, where it ought to be done, in order to benefit the public at large, branch-grafting is entirely out of the question on account of its great expense, and since the setting of one scion — standard-high — upon the stem of the "iron-clad" stock-tree answers every purpose, just as well as the setting of a dozen scions into the branches neither Mr. Whitney, Mr. Fluke, nor myself have any time to fritter away with needless, superfluous work.

The selection of suitable varieties to be used as stock trees for double or top working is of prime importance and the following characteristics should be rigidly kept in view, to-wit: perfect hardiness under all existing climatic conditions, congeniality to the scion, sound foliage, not subject to mildew and rust, a free, upright, vigorous habit, early maturity of the young growth, and persistency of rest during warm weather in winter and until the opening of spring. With the trunks of our trees thus constituted, we need have no fears of the result. The varieties found to best combine these desirable traits, as far as tested for this purpose, are Whitney's No. 20, Milton, Virginia, Shields and several others of the Siberian type, and Duchesse, Arabian, Charlamoff, Green Streaked, Silken Leaf, Hibernal, and other free-growing iron-clads among the Russians.

Top-worked upon such stocks, and with rational after-treatment of trees in orchards, we can have healthy, long-lived trees bearing an abundance of the finest and best apples in the world from such varieties as Yellow Transparent, Trenton Early, Bailey Sweet, Garfield, Fameuse, St. Lawrence, Shiawassee Beauty, Maiden's Blush, Plumb's Cider, Mitter's Red, Wolf River, Wealthy, Roman Stem, Twenty-Ounce, Jonathan, Golden Russet, Grimes' Golden, Tallman Sweet, Ben Davis, Wythe, North-western Greening, Home's Winter Wine, Willow Twig, and others, and if we add the Duchesse and a few of the most desirable of the newer Russians, which may successfully be grown by common root-grafting, we have an assortment more than ample for all practical needs of the people of Northern Illinois.

With the production from seeds obtained by crossing the finest flavored varieties and latest keepers of our old assortment, with the most desirable and hardiest Russians, will result in the production of a race of apples in which these traits shall be permanently united, and which shall be thoroughly adapted to our peculiar climatic conditions, is a problem which another half-century may, or may not

solve. Meanwhile, let us consider that the best varieties we now have, and propagate to secure the greatest hardiness attainable, must constitute the coming apple-tree for many years to come.

DISCUSSION.

Mr. Minkler — This apple question is a large one, and one that interests us all. My advice is to go slow on Russian apples. Beware, gentlemen; it is not cold alone that kills our apple trees. We have plenty of hardy varieties suitable for top-working, that are tested and not experiments. There are no better varieties than the Whitney No. 20, and the Duchesse. The most abused thing on the farm is the apple orchard. First they have got to be "horn pruned," then two crops of hay are taken off the land, then pastured. The result is the orchard is starved to death, yet a full crop of apples is expected. I say, plant your orchard well and take care of it and the soil. The trees should have the bodies protected from the rabbits, and be shaded from the sun. This can be done with a wire screen. These hard winters are calamities of only once in fifty years. We must not, therefore, be discouraged.

Mr. J. V. Cotta — The farmers are not the only ones who abuse their orchards. I refer to an orchard that was owned by a Michigan college I know of, which had become matted with blue grass, the trees diseased and in very bad condition. A new professor came in charge of that department and concluded to try to put the orchard in shape, if it were possible to do so. He commenced by first giving the ground a thorough plowing, then he pruned the trees up, and destroyed the insects that were preying upon them, as far as possible, taking precaution to prevent their further depredations, putting the orchard in first class condition. The result was his efforts were rewarded, though the trees did not show much improvement the first year, still looking sickly. The second spring after he commenced operations the trees came out in full leaf, vigorous and healthy, blooming full, and the orchard bore some eighteen hundred bushels of apples. This example shows conclusively what results can be obtained when an orchard is properly cared for and looked after.

Mr. S. G. Minkler — If trees have vitality they will bear and pay, but how can anyone expect to raise apples if the trees are not properly fed and cared for. Right after a heavy rain I have examined

the ground in an orchard which was seeded down to blue grass, and found the water had not wet down at all, to do the trees a particle of good. We cannot dry nor starve our orchard trees to death, and then expect to get apples from them. Prune your trees and look after the renewing of your ground. It will pay you for your trouble. The first decline in our orchards dates back to 1878, when we had a warm February and very cold March, which damaged the trees more or less.

Mr. L. Woodard — I concur in Mr. Minkler's remarks, and would recommend as a remedy to prevent an orchard from drying out, to mulch it with straw and leave it on; it will assist in renewing the land and keep it moist.

Mr. A. R. Whitney — I have been in the habit of hauling the manure from my place on to my orchard ground and find it of great benefit; consider straw mulch a good thing also, have tried it as an experiment, putting it around some trees and leaving the ground bare under others. The result was, I got a good crop of apples where the trees were mulched, and none where they were not.

Mr. W. W. Wicks — Protect your trees from sun-scald and rabbits. Paper wrapped around the bodies will answer. A good wash for nursery trees is night soil and sulphur.

Mr. A. R. Whitney — I wash my trees with a solution composed of one-half bushel of stone lime, one pound of glue, and one pound of copperas. This quantity will wash 200 orchard trees and will keep off the rabbits and insects.

At this juncture the chair called attention to the questions asked in the letter from O. W. Barnard, and suggested taking them up in their order, which was done.

1st Question.— Does any member of this society know what the Experiment Station at Champaign is doing, with reference to the development of a winter apple, equal to the Duchesse in bearing and staying qualities, adapted to the wants of the northwest?

Answer — Mr. Bryant said he did not think anything had been done in that direction.

2nd. Is the "seed question" now being discussed by the horticulturists of the State, one of vital interest to the development of such an apple ?

Answer — Mr. Periam — The idea seems to have become prevalent, that the stock upon which to graft, must be grown from selected seed taken from hardy varieties of apples. This is a mistake. In the first place, there is no other way to get our seed for apple seedlings, than from cider-mills where good, bad and indifferent apples are ground up. Secondly, seed taken from cider apples are, as a rule, as well developed as any. When it comes to the production of new varieties, if you want to get some particular strain, you must make your selection and then cross-fertilize in the blossom with some other selected sort, picking varieties that appear to be adapted to each other. Save the seed of the fruit obtained from this cross, and you may get a variety which will contain the qualities you are seeking.

Mr. Cotta — I do not consider that the apple seed imported from France produce as hardy seedlings as seed obtained from our native trees, for the reason that the French seed is saved from seedling trees grown in a more mild climate than our own.

Mr. L. Woodard — I don't think the seed has anything to do with the hardiness of our trees. The condition of the wood when the tree goes into winter is what determines the result. One that grows late, and the wood is green when cold weather sets in, will surely winter-hurt, while another that has its wood well ripened early in the fall will, in most instances, pull through the winter in good shape.

Mr. Sanders — Is it not a fact that the varieties we have so improved have parted with some of their original hardiness ? I doubt very much, at best, if we have increased their hardiness in our efforts to improve size and quality.

J. V. Cotta — I don't wish to have the impression go out that I advocate top-grafting as a method of increasing the hardiness of the stock. If we can improve the stem, that is what we are after, as that is the part of the tree which most often gets damaged by the winter. It is seldom that the root hurts.

TRANSPLANTING EVERGREENS.

BY SAMUEL EDWARDS, PEORIA.

Where choice of seasons can be had for transplanting evergreens, all who are familiar with the work, give preference to spring, from opening of the ground until bursting of the buds. Some choose the latter as the very best time. A damp cloudy day or in the evening is preferred for their removal to be immediately planted, but in packing for shipment no requisite is more essential than keeping the tops dry, and to avoid crowding them too closely, as they are thus liable to heat. The moss used in packing the roots, is to be only very moderately moistened, care being taken to have the moisture thoroughly distributed.

The old time idea that they are more liable to loss in removal than deciduous trees has long since been exploded and it is now generally known by all who take an interest in trees that the only peculiar requisite of success is to avoid exposing the roots to drying, as the resinous tap when hard is impervious to water. As to advisability of puddling the roots in a thin mortar of clay, there is a diversity of opinion among those having had extensive experience. Though it is a practice which has been heretofore advocated by me, it is now my opinion that with the judicious use of moss in moderately moist condition for packing, there is no gain by puddling. In case the roots of trees to be packed are puddled, the surface should be partially dried before packing. In a dry time it does protect the roots from drying for many weeks if a thick coat of it is applied at the time of planting.

Fall transplanting, at the usual time for setting deciduous trees in cold climates, generally results in failure, as the roots do not become well established before freezing. They succeed admirably when planted after the terminal bud is well formed in July and from then until middle of September, and there are occasions when it is very desirable to remove them at that season. It has not been customary to ship them at that time, and with the view to test its practicability, two shipments were made to me in 1884 by J. N. McCutchan, of Bailey's Harbor, Wis. The first lot were planted by a novice in my absence from home, the second lot came rather late in the season—and from these causes the poor success attained was attributed, though many of the plants lived. Two lots of a few thousand each were sent to me the past season, carefully planted, were kept well watered evenings; they are now a fine stand. From results of these four trials I am satisfied that with the care requisite for success in spring, evergreens may be as safely shipped and planted at the season alluded to, though farther experiment is needed to satisfy me that it would be safe to let them remain packed longer than a week or ten days.

Little by little much has been learned in forty years by western nurserymen as to the growing, planting, uses and care of evergreens, each one should and will gladly contribute their mite to the common fund. These lovely prairies must be made far more beautiful and comfortable by the liberal use of evergreens. Slowly but surely their value is being appreciated by the masses. Let us hope that the day is not far distant when no prairie home will be considered as finished until properly sheltered. With this result accomplished the labors of those who have led the way to its consummation will receive ample reward.

EVERGREENS FOR ORNAMENT, FOR WIND BREAKS, AND HOW TO HANDLE THEM.

BY H. R. COTTA, FREEPORT.

In driving through the rich farming districts of Northern Illinois, it is easy to see that the beauty and value of evergreens is not generally appreciated, as it should be, by the tillers of the soil, or that many over-estimate the cost of growing them. Nothing compared with the investment of time and money can add so much to the value and beauty of farm property as properly planted single specimens, groups, hedges, screens and wind-breaks of evergreens; especially at this season of the year, when all out-door flowers are gone and all other ornamental trees are bleak and bare; when the mercury registers below zero, and the wind whizzes and roars and reaks and howls.

I will endeavor to give a few hints which I hope will be of benefit to at least a few in adding beauty and comfort to their homes and farms. The varieties adapted for general planting are quite numerous, so one need not be confined to a few. On large lawns plant groups and screens of Norway spruce, white spruce, balsam fir, white pine or, American arbor vitæ, surround it with hedge of spruce, arbor vitæ or hemlock. Plant a few trees of the more rare varieties. One of the most beautiful of these is the Colorado blue spruce. A tree of this variety stands on Mr. Whitney's ground in front of his "No. 20" residence. Of this specimen, the late Dr. John A. Warder once said: "It will pay a person to travel one hundred miles on purpose to see it." Trees of this variety are quite variable in color; the bluest are the most beautiful. The golden arbor vitæ is perfectly hardy; remains yellow the year round and makes a good contrast with the blue spruce. Pyramidal and Siberian are very beautiful arbor vitæs and should be planted more freely. Dwarf evergreens are more suited for small door yards than large growing varieties.

If you have no wind-break to shelter your stock-yards, orchards and buildings from the wind, by all means plant one, and the sooner

you plant it, the sooner you will have the benefit of it. A wind-break is cheaper than corn and makes more shelter than a solid board wall of the same height. If you have no shelter for your stock, it will require more feed to keep them in good condition. Thousands of people have never seen an evergreen wind-break. It is both useful and ornamental, and costs but little, and is one of the best investments that can be made.

Never plant evergreens of any variety less than eighteen inches in height or less than once transplanted in permanent plantations of any kind. They grow slow while small, and it takes too much time to cultivate them and by the time they are large they will be uneven in size. When planting in wind-breaks or hedges, grade them, setting the largest alone and the smallest alone so as to have an even growth. If you must plant small trees, put them in rows three and a half or four feet apart and from eight to fifteen inches apart in the rows, in a convenient place to cultivate them. When they are large enough, transplant them to permanent plantations. Never allow the roots to dry while out of the ground. It will kill them. Dig the holes large enough to admit the roots without bending and plant but little deeper than they grew. If the ground is dry dip the roots in a puddle made of surface soil and water, of the consistency of thick paint. Set the tree thus coated with puddle in the hole; cover the roots with mellow soil, tramp it as firmly as possible, fill in ground till the hole is nearly full, then pour in from one-half to a pail of water, according to the size of the tree and dryness of the ground. After the water is settled fill up with soil an inch or two above the level of the surface. If the ground is very moist use no water, but be sure to tramp as firmly as possible.

Plant hedges in trenches instead of holes. It is sometimes more convenient to plow them than to dig them all with a spade. Trees for this purpose should be nearly even in size and branches close to the ground. Plant them at equal distances, from eighteen to thirty inches apart and as soon as they are planted, trim the tops of the tallest off even with the smallest, to give them an even start. Trim them every year, never leaving the top branches longer than those at the base of the hedge.

For wind-breaks plant the trees eight feet apart in the rows, the rows eight feet apart and the trees in the second row opposite the spaces in the first. The best varieties are Scotch and White Pine, and Norway and White Spruce. Every orchard should have a wind-break on the west and south side to keep the fruit from being blown off. Cultivate two or three years and do not allow any sod to grow within two feet of your evergreens, if you want them to do any good. If stocky first-class trees from eighteen inches to four feet in height are properly planted you need not lose one in a hundred.

DISCUSSION.

Mr. Minkler — I want to congratulate the young man (referring to Mr. H. R. Cotta) on his paper. It is a good one, though I differ with him on some points. I would never plant trees for an evergreen fence nearer than three and a half feet, and am of the opinion that four feet would be better. If you want to have a good healthy fence, the trees must not be set too close, for when they get some age, if kept closely sheared, they will not have foliage surface enough to support the roots, and some of them will die out.

Mr. Rice — I am in love with the blue spruce of Colorado; it is one of our most beautiful trees. I have some very nice specimens and have found them to be hardy, and to stand transplanting as well as any. The Douglas spruce is also a good tree.

Mr. Periam — I think the paper recommends the proper distance to set trees for fences. The hemlock makes a very beautiful fence, but it is not quite hardy in this latitude.

Mr. Minkler — Keep your evergreen fences trimmed down to start with, and look to getting a good base, that is the important part; the top will take care of itself, if the base is properly made.

Mr. Rice — A few years ago I bought hemlock heavily and planted them in fences. They have done well in every instance, could not have been more healthy. All the trees I have had in the nursery have stood as well as anyone could wish.

Mr. H. R. Cotta — I think four feet is as high as an evergreen fence should be allowed to grow, and that three and one-half or four feet apart would not be thick enough for a fence four feet high.

Mr. Wicks — Evergreens are my hobby; I have planted quite a number of hemlock fences of late years and put the trees four feet apart, think that is a good distance. There is no need of losing one tree in a hundred, if properly handled.

Mr. Lehman — Do we not plant all trees too close as a rule? I have evergreens on my place that are three feet apart, and the lower limbs are dying back so the trees look scrubby. I think if they were further apart, this would not be the case. I have seen wind-breaks that were planted too thick and the lower branches had shed their leaves, thus, the utility was destroyed. My advice is not to plant trees too thick.

Mr. Minkler — An evergreen tree will never stand, planted near the corner of a house; the wind will whip it to death. I would not plant trees for a wind-break nearer than twelve feet. If you plant them thicker, they will trim themselves up and you will soon have no wind-break.

Mr. Bryant — I think a single row is the best for a wind-break, as the trees hold their limbs and foliage down to the ground better.

Mr. Sanders — It is not the whipping of the wind that kills the evergreen set at the corner of the house; I think it is the excessive evaporation which takes place, that dries up the foliage, causing the destruction.

Mr. L. Woodard — I have a hemlock fence that has stood perfectly, and has always been hardy. I don't think it transplants as safely as other kinds; prefer October for transplanting evergreens when the fall is not too dry.

Mr. Rice — I think if we want to enjoy a wind-break and get the benefit of it ourselves, we should plant the trees six feet apart and when they get to thick, cut out every other one.

J. V. Cotta — The Hemlock has greater evaporating surface than other evergreens, and that I believe is the reason it does not transplant with as much safety as the other kinds. If water can be applied, you will in a measure keep them from dying.

Mr. Minkler — The point of packing the earth firmly around the roots should not be lost sight of as it is very essential.

Mr. Periam — The Hemlock will not live planted out on the prairie with no shelter, but will do all right if sheltered some. I think the paper recommends the right distance to plant evergreens in a fence. When a man puts out an ornamental fence he wants something that is pleasing to the eye, and he don't want to wait too long for it, as he will be obliged to if they are set too far apart.

Mr. Bryant — We have been troubled some with sun-scald on the Hemlock, have had them die some if handled too early in the spring, but if moved about the time they were budding they come out all right.

Mr. Periam — In setting trees after you have tramped the dirt thoroughly about the roots, the application of water will help settle the ground and make it more firm as well as to moisten the earth which is of less importance.

Mr. Cotta asked how to plant wind-breaks for orchards?

Answer — Mr. Periam — If you are planting a belt do not make it impervious. It should be just thick enough to break the wind but not to stop the air from circulating through the orchard, if too thick the wind will rise up and blow over the belt, coming down in the orchard and where it strikes the trees it will damage them, besides an orchard needs good ventilation.

Mr. Woodard — I think it is more essential that you have the sap down in the roots of the orchard tree when the cold weather comes on, than to have shelter belts to break the wind. See that your trees are well ripened up and in good shape for the winter before it comes and they will go through all right.

Mr. Whitney — I am planting evergreens in rows around my new orchard, and I would not put out an orchard any other way.

At this point Mr. A. R. Whitney extended a cordial invitation to the members to visit his father, Nathan Whitney, the first thing in the morning; said he would have sleighs ready to convey all who would go. The invitation was accepted and an adjournment taken until 7 o'clock.

WEDNESDAY EVENING.

President Bryant called the meeting to order and the session was opened by music, after which Mr. Edgar Sanders proceeded with his address as follows:

THIRTY YEARS IN WESTERN HORTICULTURE.

BY EDGAR SANDERS, CHICAGO.

Mr President, Ladies and Gentlemen:

The subject "Thirty Years in Western Horticulture," that I have been invited to address you on, is an extensive one, and one that would take more time than I have been able to give the subject,

and than you would care to listen to, could I give it the time; did I think myself capable of properly handling the whole question, which I do not. Even the term, "West," is a relative one — one which has changed materially in that time and, although possibly thirty-two years ago, which is the time I prefer to speak of, Chicago and the State of Illinois might, perhaps, have been the West, or the focus of the West, at that time; but, is it the West now ? except as we have become accustomed to it from old-time memories ?

There is a vast stretch of country, now, toward the setting sun, with immense interests, which go to make a country great in realities, actually embracing vast interests, even horticulturally on the shores of the Pacific, that land, where, when we in our prairie homes are battling — it may be with blizzards — they are enjoying almost a summer temperature, where the vine, the fig, and the orange find a congenial home. That is the West of to-day, and all sprung up long since the period of time we have now under consideration. It is within the memory of many an old settler of Illinois, many even, I doubt not present this evening, when our noble State was still the haunt of the red man; the West of that time, or its main central point, far east of this.

Why, Mr. Chairman, no longer ago than when I first set foot in Illinois, the year 1857, Cincinnati was considered the Queen City of the West, and for years jealous of every count of heads that tended to take that proud position away from her. Back of her period, farther east still, one had to look for the West, and it is not so very long ago, that out West meant the wilds of Western New York. Take the centers of population as found by the United States census of 1800 near Baltimore; 1820, it had travelled west to Woodstock, Va., in 1840, Clarksburgh, W. Va., in 1860 it had got into Ohio near Chillicothe, in 1880, near the once proud Queen of the West, Cincinnati. While the chances are, in the coming census of 1890, it will probably be somewhere in our own State, Illinois.

Let us see for a moment how we were situated thirty-two years ago. This is truly called the steam or railroad age, and yet it was but about five years before that, the iron horse had reached Chicago, and then took a westerly direction.

Prophetic of that trite saying, many years before, of "Westward the star of empire takes its way." Only four years before that the first rail connection east had been made — 1854,— the Michigan Central. Prior to that time, and even for some years after I came west, was to be seen the old prairie schooner, as it was called, once the only method of locomotion, slow, but sure; but not much chance for a very wide distribution of fruits, flowers and vegetables, that cut such an important figure in the present time and age.

Even the grain wagons from the surrounding country were plenty enough for a few years,— a sort of forlorn remnant of a once

great business; but, like the old United States mail in this country, and the four-in-hand coaches of older countries, finally had to succumb to the iron horse. One can, occasionally, see the ghost of one even now, but they are sorry specimens of an almost extinct race; like the buffalo of the plains,— all but a memory. Why, even the first florist to the then wild, wild west came by wagon. It was, however, now a long time ago — 1833, I think. I am proud to say I knew him well: a gentleman of the old school, but of the sterling kind.

Early in this century he was a very successful florist in London. I never meet his name, which I sometimes do, but its memory is pleasant. Recently, in a London horticultural paper, it occurred, as the importer, at that time, and by his own collector of new plants from China, of one of the Azalea family. I think, also, the magnificent Norfolk Island pine was mentioned. Fancy a man, in 1833, surrounded by the comforts of a successful business man in that great city, London, pulling up stakes, as the saying is, almost loading down a small vessel with family (he had nine children), and horticultural supplies, and starting for the New World. His name was Samuel Brooks, and to him is the honor of building the first greenhouse in Chicago, if not in the West. It was located at the corner of Clark and Adams, most of you know, now in the very heart of the City of Chicago.

He pushed west from New York by the Hudson river and canal to Canada, hearing such glowing accounts of the country: but for florists' purposes he did not find it answer to the rosy reports. Chicago then, as later, made some noise in the world. It was described to him as a glorious country,— peaches would grow out of doors, land rich, cattle wintered without any sheds, and land (open prairie), could be got for a dollar and a quarter per acre. These statements decided him. He provided wagons and loaded them. It took him two months to make the trip. Members of that family have made it since in a day. But there was pleasure in the trip, the young people enjoyed it, and our florist pioneer could botanize by the way, which, with the one-day trip now, cannot be done.

The glowing account of the country received a bitter check, however, in October, when he arrived. The early winter weather of the year being such that he found the ground frozen up tight with an early frost, and the winter that followed proved to be a severe one, and the only available house he could get was an unplastered shanty. Chicago was then but a frontier town, and not a very favorable out-look for a London florist. Nevertheless, he, to use a common phrase, hung on, and lived to see that frontier village grow to a magnificent city of several hundred thousand inhabitants, and was followed to his long home by a concourse of friends, including the florists of the city, of which he was, undoubtedly, the pioneer in that line.

I am probably however wandering greatly from my subject and may prove tiresome. Let us, however, inquire for a moment, what is horticulture? As generally accepted or at least acted upon in this country, horticultural societies treat more of fruits, with, as Col. Sellers would say, flowers and vegetables as a side show. Occasionally however some bold individual springs other cognate subjects before the meeting, as how to lay out ground, the vegetable garden, trees and shrubs, etc. The word horticulture, however, we are told is derived from *Hortus*, a garden, and *Cultura*, culture, in other words the culture of the garden. The garden then is the foundation of the whole subject, and history informs us that from the earliest times the great men of the world have been noted for their gardens. The garden is supposed in reality to have had its origin in supplying man's primitive wants. The oldest history known even locating the first man in a beautiful garden—Eden. If then I take a rather wide latitude for my subject, this is my excuse; horticulture is founded on the garden, and gardening likely older even than agriculture or field culture.

Condon, the great horticultural writer says, "gardening like most other arts, had its origin in the supply of a primitive want, and as wants grew into desires and desires increased, and became more luxurious and refined, its objects and its province extended." 'Till from an enclosure of a few square yards, containing, as Horace Walpole has said, "a gooseberry bush and a cabbage," such as may be seen before the door of a hut on the borders of a common, it has expanded to a park of several miles in circuit, its bounderies lost in forest scenery, plantations, pleasure grounds, lawns, flower gardens, hot-houses, orchards and kitchen gardens, producing for the table of the owner and his guests, the fruits, flowers and culinary vegetables of every climate of the world. The Emperor Dioclesian, as Cowper has it, is made to say:—

> If I my friends 'said he' should to you show,
> All the delights which in these gardens grow,
> 'Tis likelier far that you would with me stay,
> Than 'tis that you should carry me away,
> And trust me not, my friends, if every day
> I walk not here with more delight,
> Than ever after the most happy fight;
> In triumph to the capital I rode,
> To thank the gods!!

Illinois, and with it Chicago, in the early part of the year 1857, had passed through a few years of extraordinary growth. The iron horse had reached it, and 3,953 miles of railroad had then a central point in the now great city. But five years before — think how short a time — the first rail, a strap one, had been laid west to Elgin, forty miles. Is it any wonder there had been a tremendous boom,

as the saying now is. But those of my old compeers of business at that time know what a fall there was of my countrymen. That was the year I came west and made a start, hard times and panic followed but a few months after. 1857, eventful year, what had we then horticulturally? In the transaction of the old North Western Fruit Grower's Society, the forerunner of what was afterwards the National Pomological or Horticultural Society (now before me), there is a membership of 126 names. Where did they come from, and who were they? Out of that number Illinois is credited with sixty; Iowa, forty-four; (the meeting was in Burlington in 1856,) Wisconsin, five; Michigan and Ohio, two each; New York state, I think, half a dozen; one from Indiana and one from Kansas territory. Think of it, the great state of Kansas, then it only a territory, with struggles a hundred fold more than Dakota now is having to get into the sisterhood of states. Who were some of these representative men? The New Yorkers, it is safe to say, were Rochester Nurserymen. They had an eye to business, and the great growing West at that time was a bonanza to them. The long bundles, and boxes of trees, mainly fruit, could be seen at every railroad depot in season; spring and fall,

Arthur Bryant, Sr., of Princeton; M. L. Dunlap (Old Rural), then of Lydon, Cook county; Louis Ellsworth, of Naperville; S. Foster, of Muscatine; O. B. Galusha, of Kendall; Dr. Hull, of Alton; Edson Harkness, of Peoria; Smiley Shepherd, of Putman county; Tyler McWhorter, of Mercer; Jerry Aldrich, of Bureau; C. R. Overman, of Fulton, all men of note of the early West, were there, but, who all have fought the good fight and we hope now rest well from their labor. A few more names like Samuel Edwards, then of Lamoile; S. G. Minkler, of Kendall; W. H. Mann (now of Florida), F. K. Phœnix, now of Wisconsin, then of Bloomington, what does not that name call up in bygone years in the Nurseryman's line. A. R. and N. Whitney of this place, with possibly others that do not now occur to me, are almost sure to be present at this meeting, they are truly old wheel-horses, and have been at any time these forty years past with a hand to the horticultural plow.

Fruit and fruit trees was in these early times the great thought of these men. Forest and ornamental trees came later. What is at this day a tremendous industry, the Florists with vast sums of money interested, had scarcely its morning then. The speaker was the third in point of time in the smallest of small ways, as would be understood now in the great and growing City of Chicago, in 1857 — with nearly a hundred thousand souls. There was not, all told, to exceed a couple of thousand dollars invested in the City of Chicago prior to that year, and I doubt very much if there was as much more in the whole State of Illinois. I know of no one even then exclus-

ively engaged in the business, in the State. Our Illinois State Horticultural Society had started in 1855.

Philadelphia, probably, has the credit of one of the very first nurserymen around there, a man by the name of Lehman; must have started somewhere about 1700. In our own State, I do not know, for the moment, who might be the first. Friend Whitney started in this place in 1843, a pretty early bird for this locality. Ellsworth, of Naperville, started in 1848; Robert Douglas, that giant in the tree line, one year before — 1847. In a list of the nurserymen that I have of the United States for 1859, containing 355 names, out of these, what may be called the West for our purpose, the State of Indiana had 13; Illinois, 56; Wisconsin, 12; Iowa, 19.

In a list of the past year, gotten up through florists' interests mainly, for our State there are 1111 names; but out of this great number there are but 73 with the nurserymen's initial — N. alone. In other words, 1048 are florists in whole or part. Of these 106 are for Chicago alone, with surely half as many more in the outlaying suburbs, and hardly a nurseryman among them. There are two only worthy the name in or near Chicago that I know of. My idea is that the grand period for nurserymen in our State was, say from 1860 to the crisis of 1873, and that since, if the business has not actually gone back, it has not advanced.

With the florists it is exactly the reverse. Their growth throughout the whole country, village and city has been phenomenal, I think even away ahead of the Old World; at least, in cut flowers, — notably in rose culture. One of the largest of New York men, still in the harness, in 1844 had a $200 business, where now it would foot up a cool $100,000. And all this for the fleeting moment; thousands of dollars for the eye for a night,— to-morrow for the dust-bin.

A nurseryman will prepare you a young sapling that, rightly taken care of, will be a joy to the owner from its planting to when one hundred years are gone; with a fruit tree that will bring forth of its kind, that is health to the possessor and all who may partake; can furnish you with the good old-fashioned flowers of our grandmother's gardens, that will stand even the biting blasts of our prairie winter; but the citizen of this good year, 1889, just commencing, pass them all by, and for what? For a thing of beauty, certainly, for every flower is that; but for the pleasures of a moment, for the gaudy exotic, that the slightest breath of Jack Frost will destroy. I do not murmur at this, save and except that with the florist's prosperity, I wish I could see our old stand-by, the nurseryman, come in for a share; one who could make our homes blossom with something besides the tender denizen of the tropics; gives us choice trees, evergreens and shrubs, but of a hardy, sturdy nature.

It would not be seemly in me, Mr. Chairman, to say one word

against flowers. It has been, substantially, my life's business. Quoting from the same poet:

> "The spleen is seldom felt where Flora reigns;
> The lowering eye, the petulance, the frown.
> And sullen sadness, that o'ershade, distort,
> And mar the face of beauty, when no cause
> For such immeasurable woe appears.
> These Flora banishes, and gives the fair,
> Sweet smile and bloom, less transient than her own."

A word about our fruit and vegetable supplies. They are certainly plenty of all kinds, at least in our great central markets, but are they as general as they should be around the country homes? Does not even the raising of fruit and vegetables take on a sort of machine style? Twenty years or so ago a strawberry patch of good dimensions, was no rarity, even around Chicago. I have actually seen such crops that would glut the home market for a spell. Now I don't believe anybody grows them hereabouts. But the iron horse will bring them. It has begun, strawberries quoted at Christmas, only $4 per quart, not many car-loads, I opine. But from now on they will keep coming. If the strawberries coming yet were placed equidistant apart from where they came from, they would be some miles apart: but every week one will fill in the space, however, until long before they would be ripe here, they will come in a thick stream — by car-loads. Think of eight months of a strawberry season each year, reported rather light strawberry crop, gave Chicago 755,000 cases, averaging, so goes the report, $2.25 per case. Here are a few items of that insatiate maw, Chicago, in the fruit line the past year. 1,200 cars California fruit, against 800 in 1887, at estimated value of $360,000. From Florida, that other extreme, 300,000 boxes of oranges, out of a total output from that neck of land of 2,225,000 packages; common grapes, 7,500,000 pounds, average two cents, and a million bananas — 250,000 bunches — from the topics, average 75 cents a bunch. Of vegetables, potatoes, 3,750,000 bushels, some of these last year from Scotland; of cabbage to the number of 320 car-loads, at a cost of $250,000, with the curious spectacle last year, of cabbage, from Holland in the Water Street market.

The peach crop. What does not that term suggest during thirty-two years? Why peaches used to grow, it would seem, almost anywhere. I saw myself, the last of a lot of stumps of a glorious old peach orchard in 1857, at the farm of Wm. Kennicotts, of a thousand trees. Whether these old settlers would still keep trying, if alive, I know not. But I copy from an extract of the old Doctor's in 1858, he says: "I have had three peach orchards killed within the past eighteen years, the last one of 1,000 trees."

Memory here takes me back twenty years ago; it was 1868, with the *Ad-interim* Committee of Illinois Horticultural Society.

The trip was to St. Joe, Mich., and afterward to a trip down the Illinois Central to Cairo, with "Rural," as a guide, who had influence enough with that company to give horticulturists an excursion. There were some choice spirits about, not omitting representatives of the Chicago press; Jonathan Periam was there of the *Prairie Farmer;* Charlie Reitz, then a studious young man in the way of bugs, now famous the world over; Professor Walsh, C. R. Overman, O. B. Galusha, H. D. Emery, Col. Pearson, of Onarga, Dr. Hull, M. L. Dunlap and others. It was a royal time among the fruit growers of the time. Latchstrings were all out as they used to be; Centralia was then quite a point, Champaign and Urbana were not forgotten, but the great place was South Pass; it was then in high feathers with a boundless future. The great pear orchards were then being put out; strawberries already a feature. It was a joyous time and a red-letter day with, at least, one of the party, and he rather a florist than a fruiterer or nurseryman. But we were all birds of a feather.

Then, again, the memories of great baskets from old St. Joe, Michigan, afterwards Centralia, and South Pass, in its prime twenty years ago or so. There are yet peaches and peaches, but I am fastidious in some things, and enjoy these things just ripe from the bough. A vast quantity now sold as peaches are little better than the knot of a tree. Why, even the once plentiful common red cherry was everywhere around this part of the country; worms came along and despoiled them. Nobody seems to think of trying them again. Everything seems to go by specialties. Take celery. One time a patch of a few hundreds was a big thing, a few thousands, wonderful! Presently, say fifteen or twenty years ago, around where I come from, north of Chicago, the land was found just suitable. The Germans, mostly, kept increasing their patches, until there were two or three hundred acres. Although the price dropped some, extended markets were found; the prices were still remunerative. Celery was up. In a little while a sort of wheezy cry came that Kalamazoo was growing celery. "Ah!" the South Water street men said, "can't beat Lake View celery"; but it kept coming in, and better and better. Prices drop. With the now thousands of acres around that city, Lake View men hear something drop; then, as the old saying goes, "their nose is out of joint." The celery is down high prices spoiled their appetite, not a few pulled up stakes and hied to California; and now, after blocking the Chicago market and the New York market, the growers there are in a bad way. The next thing we will have to bear is a celery trust. They have tried it in Ohio in cabbage, in Georgia in watermelons; but, unlike trusts in other walks of life, they do not seem to help much anything that comes from the soil. Perhaps it is well it is so.

My point is that if fruit growing is not general outside of the

great centre that supplies the market, one of the great props to a successful nursery business is taken away. And to cap all, if the country home generally is not in a successful condition, if the great cities attract more than the country home, if as wealth accumulates people want to spend it in the city, what should be the best customer for a prosperous nurseryman, vanishes. That this state of things is actually upon us, I infer from a recent statement of the *Chicago Tribune* based on the school census for this year. According to this, fifteen noble agricultural counties of this state had actually decreased in male population since 1880 from 104,662 to 94,209 males. We know as a whole the state is growing, but in what counties? It is Aurora that has pulled Kane county through and not the farm townships, Rockford has done the same for Winnebago, Joliet for Will, and Chicago for Cook county.

Steam is ready to take us easily and quickly from point to point, to bring food and raiment from the uttermost ends of the earth. Distances are annihilated, cold and heat overcome. The conductor takes his breakfast from mutton from the antipodes, and his dessert from California. New York or Chicago feast upon the fruits of the tropics months and months before winter has left. Why, as the boys say, fruit or vegetables offered to a market in the place where it is grown is an old chestnut, and yet when we first came west, that grower who could gain a few days by ingenuity and skill with his crops took the cake and the money too. What is a few days now to struggle for in his asparagus, rhubarb, lettuce, strawberries, peaches, etc., when the markets mahap have been glutted months before? The stream will first start from the tropic and follow with the sun, and as I said before, often the flavor is the only thing lacking, as when fresh from the garden. But I must hurry on and leave the nurserymen and home fruit grower for good and all. Just one word. If the time ever does come when the country, on even urban or suburban homes, become the fashion to plant, to decorate, if the garden is the first thought, the building the second, then comes the hope of the nurserymen. We leave him with pleasant memories, as the grand old pioneer of the West.

Come we for a short time again to the florist, how fares he since 1857? Why it is positively magical, the transformation then and now in this department. There were just three green houses at that time of fifty feet each. Now a person is apt to say, so many acres in glass when speaking of many great florists with steam engines of a hundred and fifty horse power to heat them. Then only an old fashioned flue was used. Tens of thousands of finer roses than the Vale of Cashmere or California can produce; the result. If our city is short, they are bundled up in ice if in summer, cotton-batten if in winter and sent off thousands of miles to decorate my ladies' chamber.

Stopping for a moment's thought, again, with the nurserymen, in 1876, they mostly, but with a sprinkling of florists and seedsmen, started the National Association of Nurserymen and kindred pursuits. It was, and is to-day, a big thing. It started in Chicago and the West that year, but came back to Chicago in 1884, I think. They came again the next year; the nurserymen rather like that city. But in the latter year the florists attending the meeting, a few of them, met in the Sherman House, and organized a Florists' National Society, and broke away from the old one. Why, it took like wildfire from the first. Its growth was phenomenal, like the trade it fattens on. A thousand members attended at the New York meeting last year.

Every city of any importance is alive with florists. The big cities could muster a regiment, the smaller ones a goodly number. Even a village has its florist now-a-days. They turn out millions of plants, to say nothing of cut flowers, to decorate the flower garden for the summer months only. But they have driven out the old-fashioned flowers. They give us something gay, but ephemeral; our good old friends — the sweet williams, lark spur, London pride, southernwood, primroses, holyhocks and Canterbury bells, even hardy roses and sweet briars, are getting lost in the shuffle.

> "I like a shrubbery, too, it looks so fresh;
> And then there is some variety about it.
> In spring, the lilac and the snowball flower,
> And the laburnum, with its golden strings
> Waving in the wind; and, when autumn comes,
> The bright red berries of the mountain ash.
> With pines enough, in winter, to look green,
> And shew that something lives."

Miss Muloch, after giving a description of one, says: "Oh! the dear old-fashioned garden, such as one sees rarely now-a-days. I would give the finest modern pleasure-garden for the like of thee." But a few years ago the florists and gardeners were all foreigners; not enough in it for a native-born American. Then a few hundred dollars was all that was invested, but now tens of thousands are the rule. Even capitalists look to it for profit — to turn a penny.

In 1858 or 1859, I think, I made a philopean bouquet for some bankers to present to Mrs. Stephen A. Douglas. I spread myself in style and size and, I thought then, in price. I charged ten dollars. It was the talk of the time. Somewhere along in that time the Prince of Wales, then a stripling, was visiting this prairie country, taking in some shooting at Dwight, a little south of Chicago, but good hunting then. The late "Long John" was then mayor of Chicago. He and others banqueted the young prince. I furnished the table at the banquet, and daily at the shoot, a floral basket. It was a big thing then, so would a fifty dollar bill be as a charge.

One other example. When the Board of Trade building, on the corner of Washington and LaSalle, was opened in 1864 or 1865, I made a hundred baskets, or stands, and a thousand button-hole bouquets. Half the florists of the time then helped me. The cost was $200. It was more of an event — or either of them would be — than where thousands are spent now.

Another word and we will leave the florist. Thirty-two years even in the whole country, but also in what we will call our West, has seen his business grow, and you may take the contiguous states west of this; Ah! you may take Illinois, Iowa, Wisconsin, and west to the Pacific, now all dotted with florists, and for every dollar that could be shown to have come into his hands then for floral goods, it would be easy to show a thousand now, and very possibly double that again. Such growth as this leaves no question, no cavil, as to its overtopping anything that can be shown in the nurserymen's line.

Fruit growing now is, in even this state, a tremendous one in the aggregate, although I doubt if as vigorous as ten or twenty years ago. Our apple men seem to have lost heart with their losses. Our peach men are not so lively with expectations and hopes as then. Yet surely if we cannot all have such trees, we ought to be able to have apples, and every village, hamlet, farm and home should grow at least for home use, fresh vegetables and fruit in their season. Rightly grown and the best sorts, picked fresh from the trees and vines will surely go ahead of the best the big cities can send, and leave that much money in circulation at home.

A few words as to the people's parks, and here we have virgin ground in the whole country. All have sprung up since the time named. New York had no Central; Brooklyn no Prospect; Philadelphia no Fairmount, one of the most charming spots in the world. It is not likely then that Chicago had any parks in 1857. Now Chicago has a vast chain of parks surrounding it, and, in the way of floral decorations, second to none in the country, if in the world; all within twenty years or so. It cost the property owners millions to get them, and half a million a year to keep up these expensive adornments, but then they get it all back in attractions and visitors to the city. Then they have them for their own recreation for nothing. They are great educators. They help the florists, however, more than the nurserymen.

One other horticultural feature new and striking, is the cities of the dead, the cemeteries. Formerly, they were forlorn looking places, with whitened tombstones, located on some hill; now, they are charming spots, with winding walks and shaven lawns, here and there fine breadths of trees, shrubs, hedges and stone curbs; iron chains banished, and all, now, in one uniform lawn-like expanse. The best examples in the country, possibly, are Forest Home of Milwaukee, Laurel Hill of Philadelphia, Spring Grove of Cincinnati,

and Greenwood of New York. We have some fair bits of grounds in Chicago, not like these, however. Ours were hardly started right; that is, there are too much money speculation. This should not be in God's acre; they pay no taxes, and every dollar over and above costs of management should be expended in adornment of the grounds.

Places of the character of public parks, and even the finer examples of cemetery adornment, must, in this country, take the place of the grand old places of the Old World, where primo-geniture and other customs keep homesteads for generations in the same family, where successive generations, by addition after addition, add to stately old places. We have nothing, or are likely to have rural scenes of this character, as in the Old World, but our public parks are a feature of the age, and years hence, will, I am sure, become grand features of this country, belonging to the whole people, where all may enjoy, as all own in their collective capacity. Every village should start one of these health-giving, pleasurable places.

A few more words and I am done. Thirty-two years, in even this part of the West, has been an eventful one, has seen many horticultural changes. The bright hopes of many an enthusiast has received a rude check; some have succumbed and given up the fight, numbers have struggled on, a few, perhaps, reached the goal they set out for. For a few years of that period, nurserymen had great hopes, with bright visions of the future. Fruit culture, generally, I think, too, during that time, has made some progress. There are many yet that have not given up the fight, but are struggling to find the iron-clad kinds to fill the bill. But, what is wanted, is a sort of progressive idea; to secure this, more care and attention in detail, more labor and expense to obtain given results. The time is gone by to expect that our virgin soil only requires to be tickled with a hoe to bring forth its fruits. Thought and well-applied skill must be added: but, with these, it cannot be, but that there is an abundance that will well repay its application.

"Will it pay" is the great watchword of the times. With the balance sheet on the right side of the ledger all is well. But I am afraid with untoward seasons, sorts unsuited to the climate, the whole business has received a set-back, a sort of black eye as it were, that I hope will pass away in the good time coming.

One of the great difficulties undoubtedly in our prairie country, and indeed of all new countries, is the lack of good roads. The railroads precede the settlements, or before good roads could be provided. Whereas, before the railroads era, the only salvation for a country was good highways, these once built, remained, or were easily kept in good condition. Without good highways from farm to village or city, the country, except a short time in the summer, is an uninviting place for a home. The young become restless, and seek the cities,

whereas the country's pride should be the bold yeomanry. Speed the time when this state of things will be the rule. There would then, I am sure, be pleasant times for our nurserymen friends. With homes dotted all over the country, all happy, all contented, all doing well, what further would one want. It is his forte to seek out and introduce everything the country will grow, to minister both pleasure and profit to those he sells to. Not the least should be to replace the young trees that must soon be set to replace our fast disappearing forests.

One does not need be told that much has been done in the way of planting in thirty years, that then it was a rarity to see trees around the early settler's home, except he selected one of nature's planting. But there is abundant room for improvement. Every farm of any size should have its timber belts. They are a wonderful help to ameliorate winter.

The dwellings are warmer by their shelter, the stock delight to winter in them, a good evergreen grove is better than a poor stable, ask friend Whitney, who has a noble one. They are a cheerful sight to the landscape. A great open prairie is probably a wonderful sight with not a sign of vegetation above the grass of the plain, but a better one yet is one dotted here and there with country homes, surrounded by good buildings for man and beast, all protected by timber and evergreen belts, an abundance of fruit trees of kinds suitable to the location, not forgetting the good things for the eye, flowers.

Every tree, with fruit and flowers, will be a help,
To make success the stronger,
It will be all right one day,
Wait a little longer.

I feel, after all, that I have said little to the purpose on "Thirty Years Horticulture in the West;" but if I have not exactly filled the bill, my heart is as ever in the good work, and I can only say, I know how I would like to see these things arranged and I am sure men of your kind will have to help bring the good times and places I speak of—

"Not a tree,
A plant, a leaf, a blossom but contains,
A folio volume. We may read, and read,
Read again, and still find something new,
Something to please and something to instruct."

Mr. Minkler — That talk takes me back to a boy. I recollect when the first railroad was built to Chicago, and when this country here belonged to the Pottawatamies. Look at it now! The best country in the world! What a marvel! We have brought this country up to its present state of perfection, and it is now ready to

be beautified. Let us make it the most beautiful country in the world,— there is nothing to prevent. We who have made it what it is to-day have done our part, and we must soon leave it to the young generation coming up to go on with the great work and complete it. If I come back in a hundred years, I hope to see the work has been well done and to see great improvement.

INTERESTS IN HORTICULTURE.

BY JONATHAN PERIAM, CHICAGO.

Speaking extemporaneously, he complimented the paper of Mr. Sanders, just preceding him, as having presented the subjects most exhaustively in relation to the status and the growth of horticulture in the West. He was glad to say that Mr. Sanders had been connected many years, editorially, in the garden and lawn of that good old journal that for forty-nine years had been a constant visitor to so many families over the country, and especially in the West. He had not come with any written speech, and was glad he did not, since Mr. Sanders had gone over some of the ground more carefully than he could have done. In relation to needs in horticulture there are many, and they have been constantly growing in the western field. The growth of horticultural necessities will necessarily grow with the growth of the country. He saw a number of persons in the assembly who could look back fifty years. Among these he saw Father Minkler, who dated back in Illinois nearly fifty-seven years. What changes since that time? when the red Indian roamed all over the west. What changes since the speaker came to Chicago fifty years ago? when even Cook county was a wilderness of grass. Among the needs of horticulture are school houses: they are necessary to the progress of the art. The more school houses, the higher the plane of horticultural art, and, in fact, all agriculture,— the foundation of the prosperity of any nation. Interests in horticulture have been gradually progressing since first the founder organized the State Society, by which the Northern Fruit-Growers' Association was merged therein. Among these, such men as the late Dr. E. S. Hull, W. C. Flagg, Smiley Shepherd, the venerable Professor Turner, Samuel Edwards and many other wheel-horses in horticultural science and art, began, some of them, to make horticultural history. So the interests in horticulture began to be diversified by the acute minds in an early day, notwithstanding the assertions I have seen lately, that horticultural taste was little known until promulgated by eastern authority in the West within the last few years. The art was practically and steadily growing, new methods were being tried, and, when found good, adopted. The result is,

Chicago, ten years ago, became a great distributing point for fruits, and the business has now assumed immense proportions.

Horticulture is now divided into three distinct lines, these are: Pomology, Aboriculture and Gardening; the last includes floriculture. The time is, probably, not distant when still further subdivisions will be made,—in fact, in some directions this has already been begun. Floriculture is divided into distinct branches, the florist who deals in plants and he who deals in cut flowers. Vegetable gardening is sub-divided, so that now some only raise that class requiring hot-beds for their growth. Immense fields of cabbages and cauliflowers are now raised yearly near Chicago, and some growers pay attention to cabbage. At Kalamazoo the cultivation and bleaching of celery is practiced as a distinct branch of gardening. The enumeration might be continued indefinitely, but this must suffice. Interests in horticulture sometimes require radical changes in certain localities. Years ago every gardener was anxious to beat his neighbor in getting early potatoes, green corn, tomatoes, egg plant, etc. The Chicago gardener pays little attention to extra early vegetables, except lettuce, raised entirely under glass in the winter. Why? The South comes into competition in everything that can be transported, hence there is no money in such vegetables. But the cultivation of plants too delicate to bear transportation, like lettuce, has been largely extended.

Another interest in horticulture, only, however, in process of development, is the putting of goods on the market only in the best condition and of the first quality. There are men who will pay for this class of fruits. The late Dr. Hull, of Albany, was the first man who instituted this plan in Chicago. The consequence was, any package of fruit bearing his mark, brought the top market price, and that without inspection. Why? He did not think he could cheat the same purchaser twice. If the average fruit grower would make up his mind to the same course of procedure, it would not be long before a man's name or trade-mark would be a guarantee of the quality of the goods. Cross-fertilization to produce new varieties is attracting more and more attention from year to year, while it may be imperative, that seeds washed from the pomace of the cider-mill, must be used for the raising of stocks, it is imperative in seeking to raise new varieties, that the seeds of the varieties operated on be definitely known. The cross-fertilization of these varieties should be accomplished in such a manner as to leave no doubt of the accuracy of the operation. Another important industry is that in relation to experimental horticulture. In this, the Experimental Station of our several agricultural colleges, may be of supreme importance. The individual may be interested in a certain line of work and accomplish great good, but he may die, perhaps, before his experiments have been fully carried out. His heirs may not,

probably, will not care to follow out the line of experiment. The director of an experiment station undertakes a work; he may die at any time, the work does not die with him; on the contrary, his successor takes up the work precisely where his predecessor left off, and, however many individuals may die during the course, the experiment goes on to a finality; thus, we see that the interests in horticulture are manifold and, like the winds, ever changing. The earnest man, is he, who reads and reflects, keeps pace with the varied needs as they come. The man who never reads, never progresses, and this is as true in husbandry as in horticulture. We required a Watt to connect the possibilities of the steam engine with the hissing of steam from the spout of a tea-kettle. A Galileo to erect a system of the earth's movement from the swinging of a chandelier, or a Newton, the theory of gravitation, with the dropping of an acorn from the tree. Yes, the interests of horticulture, great as they are, are ever increasing, ever changing, and he who grasps the passing idea and applies his art to working from it a practical finality, not only confers a benefit upon the community, but if he is a business man, puts money in his pocket.

Mr. Minkler — The point of putting good fruit on the market is a good one, never send any but the best to your market and put your brand on it, sort it up and throw out the inferior. You will get enough for the good to more than pay you for the trouble, you can throw away the culls and still have more for your crop than you would have, had you sent good, bad and indifferent without sorting. If you always do this your fruit will bring a little better price than any one else's, because people will soon learn that your fruit is always good, I think the time will come when we will have regular inspectors to examine fruit that is sent to the market who will determine whether it shall be offered to the trade or not.

The President here announced the following committees:—

Committee on Fruits on Exhibition — J. V. Cotta, W. W. Wicks, D. J. Piper.

Committee on Treasurer's Report — H. R. Cotta, L. R. Bryant, Andrew Dunning.

A motion prevailed that the chair appoint a committee on final resolutions.

The committee on President's address being ready to report Mr. Periam chairman, read the following:

The Committee on President's Message, beg leave respectfully to repeat the sympathies with the feeling expressed by our worthy President, relating to the death of our late and worthy President, D. Wilmot Scott, and advise that a letter of condolence be forwarded to his family.

We appreciate that portion of the address relating to the death of the late worthy President of the State Horticultural Society, Hon. Milo Barnard, and ex-President of the Northern Illinois Horticultural Society.

We respectfully recommend that a letter be prepared expressing our sympathy therein and that the same be forwarded to the family of the late Mr. Barnard.

We most heartily agree with the President in his remarks relating to the cultivation of trees, shrubs and plants, and that the general education of the people to horticulture as the best safeguard against being cheated in the buying of trees and plants from unscrupulous imposters.

We fully appreciate the importance of the thoughts of President Bryant relating to the early trials of the older orchardists of the state and the perseverance that has been exhibited in fostering pomology and aboriculture.

We fully appreciate the importance of the recommendations relating to experimental stations and the destruction of insect pests, also those that relate to the eradication of weeds along our roadsides and waste places, all of which is respectfully submitted.

JONATHAN PERIAM,
S. G. MINKLER,
J. V. COTTA,
} *Committee.*

Mr. Sanders moved that the report be adopted and the same be spread on the records. Carried.

After another song had been rendered, a motion prevailed to adjourn until 10:30 Thursday morning, that hour being named to give the members an opportunity to visit Father Whitney, before the morning session convened.

Thursday morning the members all went out to call on Father Nathan Whitney, now in his ninety-eighth year. We found the old gentleman in good health and spirits, and glad to see so many of his old acquaintances. After a pleasant chat with the family and a stroll around the beautiful grounds of "Whitney's No. 20 residence" the members visited the cellars, which were filled with casks of the famous "Whitney's No. 20 Crab Cider," where they drank the health of their host and returned to Masonic Hall.

THURSDAY MORNING.

Meeting called to order by the President at 10:30, as per adjournment. Father Minkler offered prayer, after which the following letter was read by the President, from L. S. Pennington.

STERLING, ILL., JAN. 9TH, 1889.

MR. A. R. WHITNEY,

Dear Sir: It had been my purpose to call on your venerable father and spend a short time with the old friends of the Northern Horticultural Society, on my way to Chicago, but the inclemency of this day prevents that pleasure. Extend my kindest regards to your father, and to those that have long labored with us in our cause. It is now a few months more than fifty years since with others we commenced the work of horticulture in Northern Illinois, but owing to old age that work in my own person is about finished. We leave to our younger men a work which we commenced, but for those that come after us to complete. I shall hope and expect to see you in Sterling with many of the friends at our coming Farmers' Institute. Please find inclosed $1 to secure my membership in the Society for 1889.

I remain faithfully yours,

L. S. PENNINGTON.

The chair announced as Committee on Final Resolutions, Messrs. James Judd, E. W. Graves, Jonathan Periam.

The next thing on the programme was the election of officers for the ensuing year and the chair announced that they would at once proceed with that, the election was harmoniously conducted with the following results:

President — A. BRYANT.
First Vice-President — A. DUNNING.
Second Vice-President — J. V. COTTA.
Third Vice-President — N. A. WHITNEY.
Secretary — E. W. GRAVES.
Treasurer — L. WOODARD.

Mr. Cotta stated that owing to the death of President D. W. Scott, we only had two members on the executive committee, and moved that the First Vice-President act in that capacity for the ensuing year. Motion prevailed.

The Committee on Treasurer's Report, reported as follows, through their chairman, Mr. H. R. Cotta.

Your Committee have compared the Treasurer's Report with the vouchers and find it correct, we recommend its adoption.

Respectfully submitted,

H. R. Cotta,
L. R. Bryant,
A. Dunning,
Committee.

On motion the two reports were adopted.

Mr. L. Woodard extended an invitation to the society to hold its next meeting at Marengo. After some discussion the matter was referred to the Executive Committee.

COUNTRY HIGHWAYS—HOW SHALL WE IMPROVE THEM?

BY L. R. BRYANT, PRINCETON.

Aside from the successful growing of a crop, and the question of the price, that can be obtained for it, there is no subject of more practical interest to agriculturists than our country roads. That they have been shamefully noglected does not alter the fact, but only shows how blind some people are to their own interests. As our country grows older and increases in wealth, the highways receive more attention and will continue to do so. Roads over which one can haul a load or speed a horse at any season of the year, are of inestimable value. The worth of farm or orchard products, often depends on the ability to get them to market at a certain time, but too often when prices are highest a large share of the country is under a mud embargo.

Without any doubt the coming highway in this part of the state is to be a raised, hard roadway in the center of gravel, macadam or similar material, with a side track, on one or both sides, for light driving and travel in dry weather. This item of side tracks should be insisted on, as no road is so good as a dirt road, when it is good, and it is more pleasant to drive on, easier for horses, saves much wear on the main road-bed and in case of a snow fall, often makes the better track for sleighing. Good drainage, of course, is an essential feature in road making, and all road-drains should be of sufficient capacity to take the water from all land that naturally drains that way. But I did not start out to discuss roadmaking and engineering, as that can hardly be called a horticultural subject, but rather to suggest some ways of caring for, and beautifying our roads after the engineers have done their part. And why should not the roads we

ride over every day be made pleasing to the eye, and our children learn lessons of order and neatness on the road too, as well as inside the school house, and the strangers who visit us receive pleasant impressions of the country they pass through?

The ideal roadway should be seeded to grass in such parts as are not used for travel, kept free from weeds and brush, and to facilitate the mowing of weeds and grass with a machine, the sides of pikes and ditches should be made with as easy slopes as possible. All holes should be filled up, and rough, uneven ground graded smooth, where practicable, grass and weeds should be mowed, at least, twice a year; the first time previous to the 1st of July, as if not done by that time, it will be sure to be put off until after harvest. All noxious weeds, such as thistles, dock, burdock, velvet-weed, etc., should be cut out by the roots.

Shade-trees by the roadside are a luxury in the summer-time, and could they be planted universally, would do much to break the force of our heavy winds, both summer and winter. Street trees should be planted near enough together to break the force of the sun in the summer, but not so closely, nor headed so low as to kill out the grass underneath them. With some protection while small, the trees can be planted five or six feet in the road, thus leaving room for a walk between the trees and the fence. It will be unnecessary to say that the highway is not the proper place to throw brush and weeds, or to dump tin scraps and other refuse, or to scour plows. One should as soon think of doing such things on his lawn as in the road. But the question arises, how are we to have any uniformity in this matter? One man does his duty, but his slovenly neighbor makes no effort to do his part, and his unkept piece of road spoils the looks of the rest, and his weeds seed the rest of the highway and his neighbors farms as well. And this allowing of bad weeds to go to seed in the roads is a serious matter. I have seen persons carefully pick the ripe dock out of the grass they were mowing on the roadside and throw it into the middle of the track where the wagon wheels would carry the seed long distances, and the water wash them into the ditches and sloughs to be carried even greater distances. If I had a particularly choice article of an extremely noxious weed, which I wished the whole country to get the benefit of, I think I should seed the roads with it, and expect it to be disseminated more quickly than by any other plan, unless it could be made one of the ingredients of some of our seedmens' packets.

To return to the subject of how this work is to be done, I think it is as much the duty of the highway officers to see that the roads are cleared of bad weeds and brush as it is to fill up a mud-hole. The mowing of grass and general looking after the appearance of the roads may be left to individuals, until public sentiment demands

that it be done at the expense of all. Wherever the old system of road districts and district overseers is still in vogue it should be abolished, and the whole management of the roads in each township put into the hands of the three road commissioners, one of whom should have the necessary time and ability to personally supervise the work. Until this is done there is no chance for good roads, or any commensurate return for the money expended.

Having the township system, attend your next annual town meeting and bring up this subject. Offer a resolution that the highway commissioners be directed to destroy — not cut off, merely — all noxious weeds in the highways before the seed ripens. You can add to this, if thought proper, the grubbing out of brush and mowing the roads; but better not attempt too much at first. Your commissioners may growl at the big job laid out for them, but never mind that; tell them that if the job is a big one the sooner it is commenced the better.

To supplement their work, the idea of local highway improvement societies seems to promise well. These should not be too large, — neighborhood clubs,— and cover a certain definite amount of roadway. Meetings should be held, say once a month, at some convenient place. At these meetings plans and arrangements can be made for planting trees, improvement of fences, etc., and each month a committee should be appointed to look after the general condition of the road. This committee should request property owners to destroy weeds, and brush and mow the grass when needed, and where they fail to do this, the committee should be empowered to have it done. It will be found that the mere fact that there is an organized effort will be an incentive for individuals to do their part, and, in many cases, there will be a sort of rivalry between neighbors as to who shall have the neatest roadside.

The scope of such a society can be extended as desired, even to the encouragement of neatness and the destruction of weeds on farms; but whatever is attempted on the highway, no more should be taken hold of than can be thoroughly done.

The pasturing of stock in the highway is not objectionable where it is done by tethering, or close herding; but the ranging of stock to crop the grass short in places and leave it untouched in others should not be allowed, any more than irresponsible persons should be allowed to mar the choice bits of grass and leave all the weed patches.

In most cases then, the important thing is for some one to make a move in this direction. In many localities the roads have so long been considered "no man's land," a place to scour plows, a place to dump tin scraps and other refuse, a place to throw brush and bad weeds, a place to dig out earth for grading, and sometimes even used as a barn-yard and a storing place for farm implements, that a little

missionary work may be necessary. The advantage then of neat highways, well grassed, free from weeds, lined by rows of shade trees and bordered by neat fences, being so apparent, is it not worthy of some exertion by us as individuals, and also as a society, to endeavor to promote a concerted effort in our respective localities, to attain these results?

SOME OF OUR WEEDS AND NOXIOUS PLANTS.

BY GUY A. BRYANT, PRINCETON.

To elaborate very extensively on this subject, would consume more time than you can well spare me, so I will touch but lightly on a few of the pests that infest nearly every agricultural district, and if by so doing I can awaken an interest among you on this subject; I shall consider my efforts not in vain. A weed is one of those troublesome pests which are most aptly termed, "a plant out of place." With the greater part of our weeds, this definition will apply in more than one sense, as the majority of them are foreigners. The morals of society are made up of good and evil, and where any spot is neglected by the good, the evil is sure to creep in. It is the same in Nature. She abhors a vacuum, and will do all in her power to dispense with that state of things. It may be truly said that all nature is at war with herself. Here, there is not always "a survival of the fitted," but of the strongest. Idleness is ever the mother of vice; and the farmer who is not energetic enough to fight these noxious pests, which are the vice of Nature, will soon find that they have possession of his farm and have come to stay. Possession is nine points in law, and it counts fully as much in Nature.

It is surprising in how much greater numbers these pests are gaining ground on our farmers here in Illinois. As our land has grown older and the soil lost much of its former fertility, weeds have multiplied very rapidly, and the time is not far distant when every intelligent farmer will find that his land will deteriorate in value, just as long as he does not use more vigorous measures to annihilate the weeds that grow upon it. Many have already seen the necessity of such action, but there are in every neighborhood slovenly farmers, with calloused opinions on that subject, who raise enough weeds to keep a good stock of seeds in that locality. Here it is concerted action that is wanted, to accomplish the greatest good. In this, as in every good work, there will be a few to hang back and laugh, but persevere and it will not be long before they will see the wisdom of your course and gladly join you in furthering the work.

A well-known writer on this subject, says: "In some European countries a man may sue his neighbor for neglecting to destroy the weeds on his farm, or may employ help to do it at the farmer's expense." I think it would be a great blessing to have some such

law in our own State. He further remarks: "In England they dry the pernicious weeds and burn them, not only destroying root and branch, but seed, also. In weeds, evil should be, emphatically, nipped in the bud. In this way, the farmers should act in the spirit of the western savages, who killed the women and children of their enemies, as a tolerably sure way of preventing the multiplication of warriors." Don't let your weeds go until after seed is formed, but attend to them early in the season; don't let them breathe, for the leaves are the lungs of plants, and without them, they cannot live long. Don't throw weedy straw into the barnyard to be used as manure afterward, for in that way you will seed down your land and cause yourself much extra work. Cultivate often in a dry time, and do it well. Keep your roadsides and fence corners well seeded down with grass and the weeds will be choked out. These are a few rules which are easily followed and will save much work in years to come.

"There is a tide in the affairs of men which, taken at the flood, leads on to fortune." Farmers of Illinois! your flood tide is here. There is a time when the weeds upon your farm can be eradicated with comparative ease. Do not wait until the tide has begun to ebb, and you have hosts to fight against which would never have existed, if you had acted at an earlier date. I will now mention some of our worst weeds, with a few observations on them.

The ragweed (*Ambrosia artemisiæfolia*) is so common that it needs little description. Its Latin name *ambrosia*, signifying "food of the gods," is not very applicable. It is found almost everywhere: in the stubble, in gardens, along the roadsides, and in our meadows and pastures. The pollen from its blossoms aggravates hay fever, and is injurious to the health of cattle and hogs. When this weed is not attended to, it renders pasture land almost utterly worthless for grazing. The past season may have been an exceptional one for plant growth, but along the Illinois bottoms I have seen large tracts of pasture and cultivated land almost covered with ragweed, in many cases the stocks being about ten feet high. I have been on some country roads where it was so high that you could not see into the adjoining fields. Of course, this is due to mere shiftlessness on the part of the land owners and road commissioners, but such a state of things should not be. Usually, this kind of weed may be killed if cut just before, or while they are in flower. Sheep clear a pasture of this pest.

The velvet leaf or Indian mallow (*Abutilon avicennæ*) is another familiar weed It grows from two to five feet high. The stem and leaves — the latter usually of good size — are covered with short hairs, giving them a velvety appearance, from which it derives its name. The flowers are small and yellow. Like most of our troublesome weeds, this plant is a foreigner, being a native of India. It

was first introduced into this country as an ornamental plant, and was long sold as such by florists. The surest way of ridding your land of this pest is to pull it up by the roots. When this is done before the seed-pod is formed, the plant may be left where pulled; but when the pod is formed, the plant must be burned.

The Canada thistle (*Cirsium arvense*) is one of the greatest pests that bear that very expressive name of weed. It is not a native of America, as its name would imply, but is a European, and I am sure many a farmer wishes it had never left its native soil and come to seek its fortune among us. It has been nicknamed "cursed thistle"; and but let it get a good hold on your land, if you do not agree with whoever had the pleasure of originating that epithet, and with him call it "cursed," you will, at least, *curse it!*

Like other thistles it only produces radical leaves the first year, and aerial stems the second. These stems are from two to three feet high, very leafy and branching. Linnaus, in one of his works observes, "of the thistle tribe the greatest part are annual and biennial and hence easily destroyed. Some few are not only perennial but have powerfully creeping roots, and none so much as the present. In pulling this plant out of the ground we draw up a long slender root, which many are apt to consider the whole of it, but if those employed in such business examine the roots so drawn up they will find every one of them broken off at the ends, for the root passes perpendicularly to a great depth and then branches out horizontally under the ground." This pest has gained some ground in our state, but not to any great extent in my immediate vicinity. I have only heard of two cases in our county, although there may be many more. In one of these cases the seed was brought in a lot of straw and litter that was tossed into a field from a passing wagon. These were killed by pouring about half a pint of salt around the crown of each plant. In the other instance I do not know how the seed was brought. The plants were killed by smothering with rotten straw and litter. For large patches frequent plowing during the growing season, or planting with some crop that requires frequent cultivation is said to destroy them.

In some districts the sour dock (*rumex crispus*) is very troublesome. It can usually be destroyed by pulling up or cutting just below the crown of the plant early in June before the seed is formed and may be left where it is cut, later on however it must be burned.

Pigweed (*amarantus hybridus*) in most localities is hard to eradicate. It is found in most of the cultivated land in our part of the state. Plowing will not always kill it as it is somewhat tenacious of life.

The ox-eye daisy (*Leucanthemum vulgare*) is well known by reputation, although but few know it by sight. It is not found very extensively in this state, and where it is found it has usually escaped

from some garden or has been introduced in the grass seed. I am not well enough acquainted with it to give a description.

Purslane *(Portulaca oleracea)* is a great pest in old soil where it has once established itself. It does not start to grow until late in the season, but matures rapidly after it does start. When left undisturbed, it usually grows to a large size and smothers out the other weeds. It is very prolific, over 1,250,000 seed being counted on a single plant. Frequent cultivation will usually keep it down. It is very tenacious of life, often maturing a crop of seed after it has been pulled up.

One of the worst weeds that can be found on our farms is the common bind-weed *(Convolvulus arvensis)*, by some called wild morning-glory. The perennial roots sink deep into the earth and are capable of growing from every joint, so that plowing usually aggravates, rather than dispenses with the trouble. Among grain and in corn fields, late in the season, it is especially obnoxious, twining among the grass and grain and making a tangled mass. The only remedy I know of is frequent hoeing during the growing season; I have one or two instances in mind where it has proved effectural.

In some sections the toad-flax *(Linaria vulgaris)* is gaining a foothold. This is the "butter and eggs" of the East and is there considered a great nuisance. It is a native of Wales and was introduced into our country as a gardeu flower.

Everybody is acquainted with the coarse, homely burdock *(Lappa Major)*, and in most sections this weed is not only found in the country, but large numbers of them may be found in the back streets and alleys of most small towns aud cities. This weed is hard to eradicate after the ground is once seeded, as the seed often lies in the ground ten or twelve years before germinating. The burrs are especially obnoxious in pasture land as they get into the wool and hair of sheep and cattle. Cutting below the ground and burning the plant is the most effectual remedy.

The above are but a few of our pests, of which there are many hundreds. Many of them may be strangers to you, but you should strive to make their acquaintance with the hoe and plow. Whenever you see a strange plant on your place and you are not sure whether it is a noxious weed or not; condemn it on suspicion and destroy it.

DISCUSSION.

Mr. Minkler — Those are two excellent papers. The eradication of these weeds and noxious plants seems to be no one's business and does not get done. This sweet clover is getting to overrun our roads and is a great nuisance. I think the Canada thistle commissioners should include the burdock, as it is as bad as the thistle.

Mr. Dunning — I think the Canada thistle commissioners do not cut the thistle soon enough. They have been cutting them for years, in Cook county, but it has done no good, for the reason, they are left too late.

Mr. Woodard — We have a farmer's club in our vicinity which meets once a month. We appoint a committee to look after the weeds and noxious plants, to see that they are cut and the public highways properly cared for. The people should be compelled to destroy the cockle-burr, burdock and Canada thistle, which are our worst ones.

Mr. Rice — There are parties who are advertising all over the country, and selling this sweet clover seed to the farmers, to sow in the road for their bees.

Mr. Austin — I think the planting of trees along the highways a good thing, if they are not set too thick. This should not be, as excessive shade keeps the roads muddy all the time. Weeds are a good thing in some respects. They make the lazy man cultivate his crops, which he would not do if it were not for the weeds. You never hear a good farmer or gardener complain of the weeds, he works his crops to make them grow, and would do so if there were no weeds at all.

Mr. L. R. Bryant — The weeds in the fence corners are a bad thing. They get into the pastures and do a great deal of damage to the grass. Personal observation of pastures the past summer, have demonstrated this fact. Weed seeds are widely dissemminated by the running streams. There has been a great deal of good done in our vicinity, through the efforts of the highway commissioners. They have called on the people and told them they must cut the weeds and noxious plants along the roads, thus making a general thing of it, and it is fast becoming quite popular with the people, to keep the roads free from weeds, and seeded down to grass.

UTILIZING NEW FRUITS.

BY D. H. GRAY, ELMWOOD.

Mr. President: The time has come to the western farmers and horticulturists to "gather up the fragments, that nothing be lost." Western, as well as eastern, papers are asking the question: "Does

farming pay?" Your committee asks: "What is to be done with surplus fruit?"

The fruit-growers, who make a calling of the art of growing fruits, have to compete with not only those of their own calling, but with the amateur in the village lands, and the farmers throughout the State. The men of this calling are of a generous mind, and give freely of all they know about growing fruit, and insist that every farmer should plant new orchards before the old ones decay, and that every one owning a piece of ground should have the luxury of a good strawberry bed.

The farmer should have a large plateau of strawberries, plant raspberries around his fields, and blackberries should be grown in what would be waste spots. He can take the surplus fruit, with his eggs and butter, to the nearest market. A full market makes surplus fruit.

It is no longer a debated question: "Can we grow fruits sufficient for the demand of the State?" Our last exhibition, at Alton, answered it for apples. A finer collection has rarely been seen anywhere.

The market of every town and village of the State is well supplied with small fruits during their season. Fruits that are second in grade may be marketed, but third and fourth grades are surplus.

I do not think we have yet reached what might be called a surplus of good fruits, but we are after it, and unless there be some interposition of Providence, in the form of some new plant disease, or insects that are proof against arsenic poison, we may reach it in a few years. At present our surplus consists of wind-falls and large quantities of fall apples in the orchards, and of small fruits; the middle picking, on the first Monday and Tuesday after the full picking, is reached. This would look like a surplus of good fruit. It is a surplus resulting only from an imperfect distribution.

Between the demand for table use and the preserving of fruits, there is often a day or two of stagnation in the market for berries. The grower is apt to put as much on the market during those two days as he does on any four days of the season. All small strawberries, half-dried, and imperfect blackberries are with the surplus. The question is not a very serious one with us yet, but it is coming.

The question which underlies this one is, "How can we make the business of growing fruits more profitable, or — looking toward the future — how can we contrive the business so as to secure a living?" The orchardist will think of cider, cider vinegar, and, perhaps, of jelly and apple butter as commercial articles; the grower of small fruits thinks of jam, jellies, preserves and fruit juices. All questions of economy are moving westward, but they find little of interest, except on the subject of utilization of materials. How to

live comfortably and cut down expenses is the main question, but we will have none of it until we have exhausted our materials.

The New England States, with New Jersey, Delaware, Maryland and Western New York, have, at least, twenty-five years start of us. Old England, about one hundred years. This answers the question boldly: cheap labor, economy of materials, small profits and economical living. Our East has not got so far along but that she has her foot in our markets, and there is nothing small about it either,—the foot, I mean. Every grocery store has its dried fruits, fruits in jars, in cans; jams and jellies in pails and by the tub full.

I was conversing with a dealer in fancy fruits at Kansas City, and he said there were no goods that sold as well as our imported, he pointed to a stock of jars containing raspberry and strawberry jam, imported from England. The brand had a name for purity and first quality, they were in pint jars and sold for twenty five cents each, I examined the goods and believe the fruit and sugar were of first quality. I stepped into a glass factory and learned that jars would cost four and a half cents each if bought by the gross. A quart of raspberries eight cents, one pound of sugar eight cents, labels and packing one cent, cartage and freight to jobbers one cent, discount two per cent to jobber (four mills). The price figured thus is twenty two cents to the jobber, he must have ten per cent. so he sells to the dealer at twenty two and a half cents, the dealer to secure himself and carry the goods must have twenty five per cent. so he would be compelled to charge for my jars of jam twenty eight cents; therefore in order to compete with England I must put my berries in at five and a half cents and do the packing for nothing. This is not a plea for protective tariff on English imports, for New England with New Jersey, Delaware and Western New York have had at least twenty years of a start in the art of cheap packing of fruits. Protective tariff indeed; what! protect the West from the East, the North from the South, Northern Illinois from Southern Illinois, one country from another? Nonsense, is it not. Better let him whose nose first comes to the grindstone lift it in the air occasionally than to weigh him down until this useful member is ground out of resemblance.

Jam in pails and washtubs I did not examine, but ten cents a pint in this state means fruit from the commission house and glucose with cheap sugar. A short time ago I visited a large packing house that was engaged in putting up jelly and apple-butter in the month of June, the manager very kindly showed me around the factory, the fruit was taken out of yellow cans into which it had been packed by the growers in eastern and southern states, some of it they had received from commission men and packed themselves. The packers furnish the cans and pay about what would be the cost of gathering and packing the fruit if done in Northern Illinois, yet

the manager said to me very seriously "there is nothing in jelly." I very innocently asked if there was not a little glucose in it, with a wave of his hand towards a huge stack of barrels he said, "we are using 30,000 pounds per day," and for all that there is nothing in jelly. Fruits packed in tin have but a limited sale, the price paid is about equal to the low price of fruit if sold fresh.

Fruit juices are coming in demand, they will be used in flavoring instead of extracts. Fruit juice if put up in pint or one half pint jars will find a market. There are other ways of putting up fruit juices. I examined a recipe the other day but found it very expensive. The simplest way to preserve the juice is to put it up in glass jars as we do fruit and then it is pure. There is no other way to have pure fruit juice. I have purposly said nothing about wines, for if there be a devil his name is alcohol, and no member of this body wishes his satanic majesty as a partner in business, even though he promise to pay all the debts and claim none of the profits, we know him to be a liar from "way back."

On motion adjournment was taken until two o'cock.

THURSDAY AFTERNOON SESSION.

Meeting convened, as per adjournment, with President Bryant in the chair.

Mr. F. C. Johnson presented the following resolution:

Resolved, That this Society request some member of the Legislature to introduce a bill to prevent the adulteration of vinegar.

Mr. L. R. Bryant, speaking of the resolution, said: "What we propose to do, is to require the makers of vinegars to put their products on the markets for what they really are, something as is required by the New York law. I think it would be well for this Society and other similar ones, to press this matter. There should be some uniform strength adopted, and inspectors appointed to see that the law is enforced. Such a law would be of much benefit to the consumer as to the maker, for he would then know what he was buying, as there would be but one strength of vinegar on the market.

On motion the resolution was adopted.

FRUITS FOR THE NORTHWEST.

BY GEORGE PEFFER, PEWAUKEE, WIS.

Mr. President and Gentlemen:

On the invitation of your worthy Secretary, I have written the following short paper, covering the main points as far as my knowledge goes.

SMALL FRUITS.

Strawberries take the lead in the West, as they come first in the season, and therefore I will mention a few varieties that are giving the best satisfaction with us. Wilson, Crescent, Jessie, Manchester, or any of the pistilate hardy varieties in alternate rows, planted with either of two staminates.

Raspberries, Black—Gregg, Souhegan; *Red*—Cuthbert, Brandywine, Turner, Marlboro.

Blackberries—Ancient Britons, Stone's Hardy, Snyder.

Grapes—Moore's Early, Worden, Brighton, Delaware, Concord, Niagara. The last named is really a white Concord; quite as hardy, and ripens about the same time, falls off the stem if we try to keep it, same as Concord, the only difference is in color.

Plums—DeSoto, Forest Garden, Rolling Stone, and other varieties. Miner and Wild Goose planted with these named, give good satisfaction also.

Hybrid Crab-Apples—Whitney, Gibb, Strawberry, Orange, Transcendent, and for a sweet one, Beaches' Sweet or Sweet Russet, and others. Also Currants and Gooseberries or any other small fruit that is hardy or that can be easily protected.

Cherries—Can only be grown where there is some shelter or on high elevations where the cold air is amileorated by a pond, or lake, or large stream of water, and then only the hardiest varieties, such as the Kentish, Valtimere, and in the some localities the Early Richmond and Morello.

Apples—In the further Northwest only the hardiest varieties can be planted, to give satisfaction. In the neighborhood of where the orchard is to be planted, avoid localities where the land lays to the south or southwest, or where it can't be sheltered from these points. If good sized trees are planted, they must be protected from the sun, for a few years on the south side, by a few lath or fence pickets, or any other material; cornstalks, hay or a bunch of straw tied around the south side on the body of the tree. If only fruit is wanted that is hardy (in the apple line), without regard to quality or keeping, our selection would be, first, Tetofsky. This has stood when fifty-two degrees below zero killed Hyslop and Transcendent Crab. Next is the Duchesse. Other varieties of the imported Rus-

sians are said to be as hardy as the Duchesse, and some more so, but that has to be proven yet. None of our own plantings from 1874, of the varieties sent out by Mr. Benrow, at Washington, to us, are alive now, except the "Muscow" a very nice looking apple, but very poor in quality.

The appearance of part of the newer sorts, though lacking in the leaf and new wood, is good, and some of them may prove hardy enough for this far south. We have fruited a dozen or fifteen varieties, and the best ones are only tolerably good. "White and Yellow Transparent" and the "long field" were passably so, and would have been satisfactory to us if we did not have better varieties that ripen at the same time. Longfield has killed where the Wealthy did, and therefore, cannot put it on with the first named sorts.

Now I will name some varieties that are satisfactory in the west part of our State. McMahans, White and Yellow Transparent, Orange Winter (more east and south), Wealthy, Utter's Red, Tallman-Sweet, Fameuse, Fall Orange, Seek-no-further, Willow Twig, Red Astrachan and Alexander. Along the counties facing Lake Michigan many Eastern sorts are doing well. Golden Russet, Yellow Bellflower, Plumb's Cider, Pewaukee, Walbridge, Clark's Orange, Haas, and even Ben Davis and Northern Spy, are satisfactory. Jonathan, Grimes' Golden, Rome Beauty and other varieties that are top-grafted on hardy stocks that are also satisfactory. If these new Russians prove as hardy as the Duchesse, and some of our western new seedlings and the fruit is not satisfactory, better sorts can be worked on to them by either grafting or budding; they may prove valuable in time. Only the Flemish Beauty and seedlings from it, such as P. No. 3, and a few of the varieties imported by J. L. Budd from Russia, seem to stand well here, but nearer the lake, dozens of Eastern varieties are satisfactorly grown as well as European plums and prunes.

STRAWBERRIES AND GRAPES.

BY D. J. PIPER, OF FORRESTON.

STRAWBERRY CULTURE.

The bright little strawberry so modestly blushing in its lowly bed, the lowliest of all Pomana's sweet gifts to mortals, is still an object of admiration to all lovers of the beautiful in nature, and is a most delicious morsel to the palates of the surfeited epicure and the starving beggar alike. Its presence upon the table is welcomed by all with delight and an appreciation of its important position, as an article of diet, has been for many years and is still increasing. Hence, there has arisen an almost universal desire among the growers of fruit, unprecedented, perhaps, in the history of any other

species of fruit, for a knowledge of the best conditions for, and modes of its culture, and of the varieties best to grow for distant markets, and for the grower's own use.

All these subjects have been so thoroughly canvassed as to leave little to be said. Before making a plantation of strawberries, I would advise the novice to procure at least, twenty-five or fifty plants of, at least, a dozen sorts to test upon his grounds. Grow young plants from the half of each kind and fruit on the other remaining half. Those that are to grow fruit should have all the runners kept off. After two or three have set from each plant, first set the plants twelve to fifteen inches apart, which are to be kept for fruiting, and those for growing plants may be set apart in the row and the rows may be three and a-half feet apart; the ground should be prepared the fall previous to the setting of plants. Cover the ground well with manure from the pig-pen before plowing. Plow the ground from six to eight inches deep. A light sprinkling of well-rotted manure, mixed with ashes, applied in early spring before the ground is harrowed, and prepared by harrowing with a sharp-tooth harrow and then rolled or planked, puts the soil in fine condition for the plants to grow. Cultivate and keep all weeds and grass down the first season after planting.

I have always insisted and must repeat, that success with any variety depends more upon the preparation of the soil previous to the planting than upon all others combined. Then if good cultivation is given, if the soil has been previously well prepared, almost any variety will do well the next year after setting. I have had an experimental lot for the last four seasons, and have had thirty-five varieties in it and they all did well. My rows were only two feet apart. I had pistillate and staminate varieties in alternate rows. Strawberries planted in that way fail to produce buttons unless they are hurt or partly killed by frost.

I think frost in time of flowering has much to do in producing buttons. If we want the finest and best fruits, we must keep the plants in hills and keep off all runners. Mulch well in the fall before hard freezing comes on. It is a good plan to keep the plants in narrow rows and set every third row to stamen varieties, such as Captain Jack, Cumberland Triumph, Bidwell, Miner, Kentucky, Mt. Vernon or Night-Superb as fertilizers, when growing berries for market. If I was to set only four varieties, I would take Great Pacific, Bidwell, Manchester and Mt. Vernon. If six varieties were to be planted I would choose Great-Pacific, Bidwell, Manchester, Captain Jack, Mt. Vernon and Windsor-Chief. If I was going to add any more to the list I would take Cumberland Triumph as they are always large and perfect in form. The Cumberland does not fruit as heavy as some others, but is always perfect in form.

The above named sorts are all large berries and great yielders of abundance of berries, and with me are always large and perfect when not injured by frost. The Great-Pacific, mentioned in the list I recommended, is a seedling grown by me. I have fruited it for five seasons past, and it has gone way ahead of anything else I ever had on my grounds. If I tell you that I have seen the fruit lay in one continuous pile around the Great-Pacific you would not credit it The plants did not have any winter protection. It is a berry the shape of the Wilson, but a much larger berry, and the plant a more rampant one. It surpasses the Crescent in making runners and producing young plants and fruit. It must be well fertilized and you will get an abundance of nice large berries. I have chosen thirteen good berries out of five hundred seedlings and the Great-Pacific is one of them.

The grape is the oldest fruit we have any knowledge of, it being almost the first fruit that was used in ancient times.

There is an almost innumerable variety, but very few kinds that are sufficiently hardy, at the present day, to withstand our cold and rigorous climate. First, we will take our natives ; they fail in many cases, and are frozen back to the main vine, and some are killed outright.

As we understand, the Concord has been grown from seed by careful selection from the best wild grapes of the East. It is about the third generation from our wild native Fox grape. There has been great improvement since the Concord was first introduced. Since that we have the Delaware, Hartford and Diana, and still later on we have the Martha, a white and very sweet grape, and equally as hardy as the Concord.

My vineyard was planted twenty-five years ago, when grape blight, rust and grape rot were unknown in our part of the country. But, alas ! to-day we are in the same boat with our brethren in other parts of the country where this trouble has existed for a number of years. Why is it?

Do the vines take the proper ingredients from the soil to produce a sound and healthy growth of plants and fruit, and do we neglect to put back and supply the soil with the proper food to produce both healthy vines and sound fruit? This blight and rot must be a contagious disease, and is brought about as many other things are in the shape of disease. If we were on the look-out, and cut off and burned every leaf and twig that showed any sign of disease in any form, I think we would not be very much troubled by rot and blight.

When the rot and blight once gets into a vineyard, I think it would be better to root it out entirely than to be bothered by rot every year. In such cases only very dry weather will prevent the occurrence of its return for only the time being. The years of 1886

and 1887 produced some of the finest grapes that were ever grown in Northern Illinois. I visited Mr. Cotta's place in the fall of 1887, and there saw some of the finest grapes that has ever been my pleasure to behold. I refer to the Niagara, Moore's Early and Worden. A few years previous I had seen just the reverse.

I don't care how you cultivate in a wet, damp season, you will not grow good grapes. We want the wet kept off our grapes as much as possible if we wish them perfect. It never gets too dry in our part of the country to grow good grapes, but often gets too wet. The best plan to grow grapes is to drive a stake into each vineyard. Have it about six feet above ground, large enough and strong enough to hold the vine. Drive a nail or two, about five feet high, into each post. Lap the vines around the post, and tie a string around vines and post to hold them in position, and let it go until the fruit is set. Then pinch off the end of each vine, three or four buds beyond the last bunch of fruit, and let it go for that season, except that you cultivate it with a horse and shovel plow each way, and keep down all weeds and grass. By tying the vines up to stakes, the foliage forms an almost complete umbrella, that will protect the fruit, in a measure, from the rain and heavy dew.

There is now in Northern Illinois, on trial, a seedling grape — an out-door grape,— and, I think, the finest grape we have. It is grown in Freeport, and surpasses the Delaware, Jeffries, Walter and, in short, all the fine varieties that I have had the pleasure of tasting.

I have previously grown forty-three varieties before we had rot and blight among our grapes.

DISCUSSION.

Mr. Austin — We think the Crescent Seedling one of the best strawberries we have for productiveness and hardiness, and I am surprised it is not mentioned in the paper. I would like to inquire if the grape rot is general over the northern part of Illinois ?

Mr. Piper — So far as I have observed, it is. A heavy shower followed by warm, sultry weather will set them to rotting.

Mr. Periam — My experience has been that the method of training a grape vine to a stake is the right one, and that it is a good thing to renew your vines. Grape rot cannot be called a contagious disease. It always comes on in wet, hot, muggy weather. Sulphur is a specific for mildew on grapes. The inclination of a grapevine is to overgrow, and it should be kept well trimmed back. The vines are so easily renewed that there need be no trouble result. I think they should be pinched back to within about two buds of the

fruit. Would always leave plenty of leaves to shed the super-abundance of moisture, which would otherwise fall on the fruit. When there is plenty of radiation, the leaves that are outside and not sheltered, gather a great deal of moisture, and are covered with water or dew, which prevent their giving off the needed moisture from the roots. It is, therefore, necessary that there be plenty of sheltered foliage to supply the needed evaporation from the roots.

Mr. Austin — I have seen vines that had not been trimmed for a number of years, bear heavy crops, and I do not think we can always tell just how much benefit is derived from pruning.

Mr. Cotta — I think the less summer trimming we give our vines, the better. The bearing vines should be allowed to grow during their fruiting, and make as much foliage as they will. We prune in order to reduce the number of bunches, that what remain may be improved in size and quality.

Mr. Periam — I do not wish it understood that I advocate continual summer pruning, as the vines so treated would soon go back. It would not have leaves enough to keep the increasing roots in a healthy condition. I would simply pinch back a little during the summer in case the vine seemed to be running too much to wood. This process simply retards the growth and does not rob the vine of its foliage.

HANDLING, SHIPPING AND MARKETING FRUITS.

BY JESSE R. WHITNEY, CARROLL, IOWA.

A few days ago I was invited by your President, Mr. Arthur Bryant, to write something on the subject of "Handling, Shipping and Marketing Fruit." In the past few years I have had considerable experience in marketing fruits. I have handled fruits from a great many different sections of the country, and of a great many different men's packing. As a result, I find the most important thing in packing fruit is to be honest. When you have packed your fruit honestly it will sell, and the people will call on you for more; if packed dishonestly, your trade is at an end. It should be packed and handled as carefully as eggs. Pack in new full-sized barrels. If the fruit you are handling is apples, dress the ends of the barrels that are to be opened, thereby presenting an even, regular and inviting appearance; the fruit should be packed tight and pressed in the barrels, to prevent shaking and bruising. This same rule applies to all other fruits.

The shipping of fruit, heretofore, has been the greatest drawback to getting fruit properly on the market, but the railroad companies, in the last few years, have come to recognize the importance of furnishing suitable cars, made for the purpose of handling the large and growing business. We can ship fruit from California now, and have it arrive in as good condition as formerly in shipping from Southern Illinois to Chicago. They have a line of fruit cars adapted to the business, with a system of ventilation so perfect that there is hardly room for improvement left.

One of the greatest questions that the apple-growers have to contend with is, how to dispose of their early apples, and it is one of the easiest solved. Pack your fruit before it gets too ripe, ventilate your barrels, but not too much, and ship your apples to the market that you think you can do the best in, and ship them off promptly before they get too ripe. Don't wait until you get enough to fill a car, as part of them will be too ripe.

A great many growers do nothing with their early apples, because they have had too much bad luck in the past: but in the sections of the country where there is no fruit grown, early apples are in good demand; and good packing from the early varieties will net you as a good a result as the later varieties, if properly packed and handled. Don't always look to the larger markets for a profitable return, as some of the smaller markets will net you more money, as they are not so liable to be glutted as the large markets frequently are. The most successful way is to get a line of customers started, pack your fruit honestly, in bright, new packages; put your name on the packages as packer — which is a guarantee to the buyer and the consumer that the fruit is first class,— and you will find that the marketing of your product is the easiest job that you have, and your net returns cannot help but be satisfactory.

GROWING AND MARKETING GRAPES AND SMALL FRUITS.

BY E. C. HATHAWAY, OTTAWA.

Mr. President and Members of the
Northern Illinois Horticultural Society:

The growing and marketing of fruits have engaged the attention and closest thought of the horticulturist ever since fruits have had a commercial value. Proper growing is consequent upon a great many contingencies, among which are locations, soils, exposure, etc. But the marketing, there's the rub. If all growers were honest, and I am sorry to say that I cannot believe they are; and why they are not, when it is to their own advantage to be so, is beyond my comprehension. If all commission or middle men, were possessed of such consciences that they would return to the grower or shipper, what

rightfully belongs to him after deducting proper commissions and expenses, then the question of marketing would become a much more easy one, but commission men (I'll not say all, but a great many), are so prone to figure their commissions at the Dutchman's one per cent. that the poor shipper generally can't hold out until he finds the honest one, but like the old horse, put on a barrel stave diet, plays out getting used to it. Now I know of no remedy for this except that shippers should compare notes at their annual meetings, and elsewhere, and when they find such as have treated them honestly, after a long series of dealings, patronize such men only. This plan might not be perfection itself, as even the once honest ones, overcome by their surroundings, might fall; but then it is well enough to try them until you find them going through your pockets; then quit.

The rigid assorting of fruit, at packing, rejecting all inferior or decayed specimens, is the only possible way in which we can hope to realize good or remunerative prices in this era of competitive strife. If shipments of such fruit are made with the shippers name plainly stenciled upon the package, you will be surprised to see how soon you will establish for yourself such a name that your fruit will not be reported back "carried over" or "spoiled," but, on the contrary you will be advised to ship as much and rapidly as possible, as "your fruit is all sold to arrive," provided always that your consignee is an honest man. The question of packages has now been pretty well solved, and the cheap veneer boxes and baskets seen on the market stands every day, is the evidence of their adaptability and convenience to both grower and consumer. There has been some disposition to condemn their frailty, and rightfully too, on account of the careless manner in which some of them are put together. This is not the fault of the material, however, and after a few losses from this source the builder will be apt to correct his errors and build more carefully and strongly. "He who causes two blades of grass to grow where but one grew before is a public benefactor," but he that puts two nails into a fruit package where he was in the habit of putting but one before, will soon discover that he is a benefactor unto himself.

Where so much has been spoken and written relating to the growing of fruits, it would seem like folly for me to attempt to enlighten the growers of Northern Illinois upon the subject. I know of no new methods other than those already being tested. The insect scourge is to my mind the most important question that presents itself to the fruit growers of to-day; it is monumental in its importance and, if means are not soon devised for checking it, I fear the days of successful and profitable fruit-growing in Illinois are numbered. I can see but one way to overcome it, and that is through concerted action and legislative enactment of laws; laws that will compel the owners to either cut down or destroy their trees and

plants and take such measures as will prevent their becoming breeding-places for insects, through neglect.

Question — When is the best time to prune apple trees ?

Mr. Cotta — I have trimmed apple-trees for one-quarter of a century, and have found that if I pruned in the early spring, before the sap had risen in the trees, and there was no frost in the limbs, no bad results came from it and the bark did not turn black around the cut. Pruning is generally advised for June, but I have never been successful at that season of the year, and do not think it should be done in the summer, except the new growth.

Mr. Austin — We never experience any bad results from pruning in May and June, but look out for black sap, if you prune when there is frost in the limbs.

President Bryant — I think the sap, or water, will run from the tree and discolor the bark, cut it when you may, if the tree is damaged at the heart, and I don't think it can be avoided.

Question — Should farmers prune back the trees they get from the nursery ?

Mr. Austin — We always prune the tops back in proportion to the root. For instance, if a tree has a good root, we leave more of the top on than where it has a poor one. I prefer to set a large tree in the fall, but small ones are usually better set in the spring. It is not so with all varieties; some do better planted in the fall and others in the spring. There is no rule which I could prescribe that would apply in all cases, one must learn from experience the peculiarities of the different trees. I have found that if the Norway spruce is taken up and heeled in for some little time, and then set out, it will almost invariably die, but it is not so with the pines.

At this point the tree dealer was discussed at some length, and Mr. Cotta introduced a motion instructing the chair to appoint a committee of three to take into consideration the advisability of asking our legislature to pass a law that would protect the farmers and the people in general, from the deception and frauds practiced upon them by the irresponsible tree dealer; the motion prevailed and the

chair appointed to act on that committee, J. V. Cotta, L. R. Bryant and Jonathan Periam.

The committee appointed to examine and report on the fruit on exhibition, offered their report which, on motion, was approved.

The society adjourned until seven o'clock in the evening.

THURSDAY EVENING SESSION.

Called to order by the President at 7:15 and opened by music.

THE IMPROVEMENT AND ORNAMENTATION OF PARKS, LAWNS, THOROUGHFARES AND SCHOOL-GROUNDS.

BY H. G. BRYANT, PRINCETON.

What can be more pleasing to the eye than a well kept lawn or park, dotted here and there with clumps of trees, bushes and flower beds, while between these the rich green grass carpets the earth setting off the beauty of the scene twofold. How seldom we find the attention and care that should be given the parks and school-grounds. As a rule they are usually allowed to care for themselves as far as ornamentation is concerned. What few trees are planted are improperly taken care of, and in the school-yard the children are sure to put them to uses for which they were never intended. Would it not be a good idea to interest the children in the care and improvement of the grounds by planting trees, shrubs, etc. By assisting in planting and care of them they feel an interest and responsibility concerning their welfare, it would tend to make them more careful and by instilling this love of trees in their minds while young, will have its effect in after life, as they will hardly forget their early training in this direction.

The citizens of a city or town should see that their parks and school-grounds are well improved, for by them a stranger usually judges the class of people living there. Where this is done, we will almost invariably find an enterprising and industrious community, and *vice versa;* so you can readily see the importance of well-kept grounds. It not only adds to your own enjoyment of life, but gives much pleasure to others who have not the same opportunities of enjoying life to as full an extent as you do.

In everything we aim to do we should have an object, or plan, in view; something to be working to — especially so in planting trees,— whether for the mere pleasure or profit. If managed rightly, a lawn or park can be laid out and planted without a great deal of

expense, and it seems strange to me that so many cities and towns have not taken up the ornamentation of their parks and school grounds and tried to improve them. This could be done with very little cost to each landholder in that vicinity, and would probably increase his property in value more than the trifle it cost him. Care should be exercised that the trees may not be planted too closely, so that they will crowd each other after they attain considerable size.

In order to plant so the best results may be obtained, one should be acquainted with the different varieties of trees, their habits of growth, the size they ultimately attain, and the effect they will produce when planted among other kinds. Persons who do not understand this, are quite apt to plant too closely and therefore spoil the lawn or park after the trees are of some size. It is better to employ a skilled landscape gardener, one who has devoted his time and attention to the subject, and who thoroughly understands his business, if we can afford to. If we do so, usually considerable expense can be saved in the amount of trees planted and in the end they will be where they are wanted.

When riding, on a hot summer day, whether it be for business or pleasure, how much enjoyment is afforded by the cool, refreshing shade of a row of trees along the road, and then how much we regret that more trees were not planted along the highways by our fathers when they first settled this country. To those who did, we must tender our warmest thanks, and when an opportunity offers, we should follow in their footsteps and do likewise. There is nothing that adds so much to the beauty of a city or town as well as well-kept roadways, lined with fine rows of trees, making a delightful shade in summer, and protecting the home from the cold blasts of winter.

The elm, one of the grandest of our trees, is probably as much planted as any one variety for shade and ornament in this section. It attains a large size and, if properly cared for when young, makes a beautiful tree.

The hard maple also makes a handsome tree, but is not as much planted as the elm on account of its slow growth while young, these together with the white ash and chestnut are among the most desirable of the hard wooded trees for ornamental planting. In whatever we attempt to do, let us do it with our might, keep perpetually "firing" away at the people, and finally we may be rewarded for our perseverance and energy by making an impression that will last forever, whereas if we are easily discouraged we may not accomplish what we otherwise would.

LANDSCAPE GARDENING.

BY W. WICKS, MT. CARROLL.

We will here venture a few suggestions. In the next twenty years in Northern Illinois many new homes will be made and old ones reconstructed. They should be arranged with taste. The face of Nature might be greatly changed by the magic touch of the landscapist. We urge farmers to pay some attention to this subject, as it will pay in a number of ways.

1. In the increased value of estates.
2. In the enhanced pleasure of farm life.
3. As a means of keeping the boys at home.
4. When combined with tree culture it so modifies the climate that man and beast are greatly protected.

We outline a few practical hints as applied in rural arts. For want of knowledge, time and money is often expended injudiciously. The universal mistake is made in locating the ornamental trees in front, instead of the rear, of the house ; "we get the cart before the horse." An object on canvas appears better with a pleasing back-ground. The house is the main feature, the park and other distant objects is the back-ground, that helps to complete the material picture. The painter studies the harmony colors,— the landscapist may do the same.

Green trees, hedges and white snows are pleasing objects in winter scenery. A picture set in a nice frame appears more beautiful; so flowers, bordered with some suitable edging, are more attractive.

In this soil and climate, for ornamental planting, evergreens should largely prevail, as they are a joy forever. The front yard is the proper place for lawn and flowers,— flowering shrubs should be placed back to one side. Curved walks and drives are in harmony with modern taste. Terrace work — sod walls against embankments — add much to make home complete.

All trees should be planted several rods from the house to avoid a smothered appearance, as well as having reference to keeping the cistern water pure.

SHRUBBERY FOR THE NORTH WEST.

BY A. B. AUSTIN, DOWNER'S GROVE.

Mr. President, Ladies and Gentlemen:

Some twenty-five years ago when first attempting to run a nursery, a great deal more zeal than experience was displayed, and in no place did it appear plainer than in raising evergreens and flowering shrubs. Not much was known at the time in Northern Illinois

about the comparative hardiness of plants, and the experience of our eastern brethern was not a sure or reliable guide for us. By experience we found our soil was wanting in some characteristic or had to much of something, so that all varieties of kalmias rhododendrons and their near relatives will not thrive here, although east they grow well at a much higher latitude. Again we have a bad climate, its extreme heat and cold, wet and drouth are very trying to all shrubs, yet with these drawbacks we have a great many fine varieties that will do well here.

In planting shrubbery, first get the hardiest varieties, those that are known to stand in your vicinity the various vicissitudes of the seasons and try the tender later. Do not get large or fully grown plants, they require to much time to overcome their removal and again get established, thereby liable not to give good satisfaction; but always commence with small or medium sized plants and as they grow the interest in them will increase. It is very discouraging to fail in our first effort, very often causing an abandonment of the field. Do not set the plants in a sod and leave them to take care of themselves, for they will surely die, but they must be placed where you can spade around them and give to them at least as much care as to a hill of corn or potatoes; they need no more cultivation than those, but surely need as much. I often recommend to those setting, that a border of flowers or a flower bed be placed around them for several years after setting so as to insure care, the care to the flowers insures the care of the shrubs. When shrubs are planted in masses, for the first few years it is a very good plan to plant bulbs and roots of perennials among them to insure cultivation. We have our grounds in which the shrubs, etc., are planted, spaded every year in June and hoed several times after through the season. For best results, plant shrubs in masses and as soon as they begin to crowd, thin them, taking the poorest and leaving the best and rarest. Shrubs generally grow hardier for a while with age, so that with care in protecting them for a few years many will endure a much lower temperature than in their infancy.

About five miles from where I reside is a wiegelia rosea, thirty years old, eight or ten feet in height, and when I last saw it in bloom it was a sight worth going several miles to see. This plant was protected awhile. Protection from our cold, dry west and south west winds is desired; it is as much the cold, dry winds in winters as intense cold that destroys plants. The planting on the south or south west side of a building is not generally an advantage, the heat of the mid-day sun, especially in winter on the trunk, or trunks very often is injurious; would prefer to shade them, especially those not fully hardy, to prevent injury to the bark from constant thawing and freezing. A belt of evergreens on the west side of the lawn or

grounds will be found of great advantage to shrubs and to all living beings.

I speak of this from knowledge. A small cladastris (yellow wood), struggled on, on my place for a long time. The winter would take off what was gained in the summer, until a belt of spruce became high enough to shelter it from the west wind. It has since put on a robust, healthy look and now is as vigorous a tree as I have; also a daphne, a little sheltered, has been growing and blooming for the last sixteen years, always the first to greet us in the spring with its fragrance and beauty until it seems almost like one of our household. Sometimes during our severe hard drouths, it would drop its leaves in mid-summer, still it struggled on and was always ready to smile on us in the spring. In selecting shrubs, two objects should be held in view; first, bloom and second good foliage. During the season, some consider the latter the greater object, but plants that both bloom well and also hold their foliage are to be preferred. Do not be discouraged by insect attacks. With a little care and patience they can be overcome. If attacked by worms, slugs or other leaf eaters, syringe with water in which Paris green or London purple has been mixed, but if attacked by aphis, more patience will be required, but they will sooner or later leave.

Our old favorite viburnum sterilis, snow ball, for four years in succession was attacked by an aphis that caused the leaves to roll up, the flowers to be imperfect, and affected the growth of the plant. Last year they disappeared, and the old bush shone again in its original splendor. It is well to be suspicious of all shrubs that come from Africa, China, Japan, Southern Europe and Southern North America. Occasionally we get a hardy shrub from them and a fine one, but they are the exception. The rule is for them to be tender here. Be also a little cautious about buying new, strange and wonderful plants of strangers, who have something your nurserymen can not get. A short time since one of the gentry was selling near by, red and red and white striped Philadelphus syringa, either color, as his customer might desire, and as they were rare a rare price had to be asked, one dollar for a bush eighteen inches, and a much larger price for larger bushes. A great many were sold. The ladies felt happy and laughed at the nurseryman when they found he had none, and they had, but they have not laughed since, for those that were true syringas, had only white bloom, and what were wieglias soon died. In the following list and description I give you only my experience. The philadelphus, common syringa, are all hardy and good bloomers, are either fragrant or not according to variety, and hold their foliage well. We cannot do without it. The golden leaved aurea is fine, holds its color well and makes a low, compact shrub, fine for fancy hedges. If planted in the shade, it fades to a green. All golden foliaged trees and shrubs must have full sun-light.

Lonicera, Tartarian or tree honeysuckle.—This is a fine shrub, very hardy, blooms freely, followed by red or yellow berries which remain until fall. In color of bloom we have pink, red with white stripes, white and cream color, according to variety. It should be planted much more than it is. Sedebouri, a variety from California, may be tender. Syringa, lilacs, all I have tried, are hardy. What the newer varieties from China and Japan will do, requires time for trial. We are having a variety of forms of this old choice plant, but none too many, and not too much can be said in its praise. The only fault is its tendency to sprout from the root. The Persian and Josekea are free from this fault. Among the new forms is a weeper somewhat the character of the filmarnock willow, having a white bloom and has to be grafted standard height, and one, the tree or giant lilac, making a tree with a single smooth trunk twenty or more feet high, blooming in July. We have reason to believe they will be hardy here.

Viburnums are, as far as tried, all hardy with one exception; most of them are natives and of various characteristics, making them desirable and are a class of shrubs with good leaves. The snow-ball, viburnum sterilis, belongs to this class. The variety, santonoides, is deserving a place in every yard; blooms well and has a fine leaf; blossom-bud very conspicuous in the fall. Viburnum plicatum from China, often call Japan snow-ball, is tender, even the roots are destroyed by frost. The little flowering almond we must have, although not fully hardy; about three years out of five, we get an abundance of bloom ; the roots always survive.

Hydrangea (*paniculata grandiflora*).—This is perfectly hardy ; grows with me five feet high, with a fine spreading top ; is a fine, if not the finest, late-blooming shrub we have, with its large heads of white bloom in August and September. It is very attractive. I have had it in bloom for the last sixteen years, and only once has it failed in that time. It did not grow enough in the summer of 1887, on account of drouth. It is well to keep it well-trimmed and in a growing condition. The flowers are on the new wood.

Rosea Pugosa.—I wish to call attention to this new variety of rose from Africa. It can, and, no doubt, will, be used as a shrub, and will give good satisfaction. There are three colors,— alba (white), rose and red. The flowers are large, often three or more inches in diameter, and fine in color, followed by bright berries, foliage dense and good, remaining until late, often changing to crimson in the fall. Already have plants been produced with double roses by hybridizing. These, with its complete hardiness, can not fail to make it a favorite.

Chionanthus (white fringe), one of the best of shrubs, with leaves like the laurel, shining all summer, as if varnished, a delicate

white bloom in spring, as hardy as an ash tree — to which family it belongs,— should make it a favorite.

Among the hardy shrubs, in part, will be found the following [this article will not allow me to be descriptive with the balance]: Berberries (both common and purple), yellow flowering currant, purple fringe (phus cotinus), snow berry (or wax berry), cornus sangima and the Siberian varieties, nearly all the spireas, and daphne.

The following have proved half hardy, sometimes enduring a few years, then freezing down, but their roots generally remained and grew. Cydonia (Japan quince), European euongmus, prums pissarda, rose accacia, deulgias (grariles, generally hardy), wiegelia. Among the tender, those that kill top and root, are the altheas, all the flowering currants but the yellow, cornus of the marculate varieties, calycanthus, gorsythias (golden bell), xanthrares and some others. Professor Budd claimes to have both a calycanthus and tamarisk from the Amour river, of Asia, that are perfectly hardy. If so they are a fine acquisition. The herbaceous pæonies come so near shrubs, and I have such success with them, I must say a word in their favor. For show, hardiness and longevity nothing can excel them, excelling even rhododendrons. I succeed in having bloom from them for about three months each year. The first to bloom in spring is tennefolia; single, dark crimson flower. It is not unusual for the buds to be formed, and at times, opened before the snow squalls leave us in the spring, mingling crimson buds among the snow. The next to bloom is a dark crimson, the paradoxa, the foliage of this variety dies down in summer. Last come the Chinese varieties. With care and age they make large stools three to four feet high and four to five feet spread across the tops; with the different colors in bloom at the same time, in one large bed, the sight is grand. I have seen over one thousand buds and flowers, many from four to six inches in diameter, at one time on but twelve stools. The plants should be placed so that they can be spaded around every year, and planted six to eight feet apart. They will have to be hooped, to keep them from spreading and breaking down, we use iron hoops from large barrels; other plants and bulbs can be placed among them. We use roses, lilies, gladiolus, dahlias, etc., making a constant bloom from the time the frost leaves in the spring, until it returns in the fall. Pæonia tennefola, flori plena is a gem; color dark crimson, color of and a little larger and fuller than the Gen. Jacqueminot rose, a beautiful foliage, fennel leaved, comparable to the down of a chicken recently hatched. In every respect it is rare and fine. It may truly be said of them (pæonia) they are "as hardy as an oak," needing no protection, always of a vigorous habit and healthy growth. Freedom from all diseases and insects, are important arguments in favor of their cultivation. It really is a "fine flower for the million."

DISCUSSION.

Mr. Periam — Any place will be improved in value by planting trees. Could cite many examples showing the efficiency of wind breaks. The common mistake in tree planting is made by setting the trees too thick, and they continue to grow thicker. If you plant your trees thick, you must not wait too long before you thin them out. For ornament, you simply want the ground fairly well shaded, not enough, however, to keep the grass from growing. The slope of the land must also be taken into consideration in ornamental planting. If the house is a tall one, plant lots of trees in the yard. I believe in having trees and ornamental shrubs between the house and road. You do not want too many tall ones, nor those that make dense shade, but have a good variety. The better shelter you have the more tender trees can be planted, but you will have to experiment to get the varieties that do best in your particular locality, as no one can tell you what to put out. No man has a farm merely for what he can make out of it. It is his home, and the trees he plants about it make it more home-like, and increases its value materially. It is the improvements that make the farm bring a good price. No one ever plants, in the way of ornamental trees, to beautify his place, not even the slow-growing evergreens, without being well paid for it; allowing, of course, that the trees do not die the first five years. Lines of trees too thickly planted along a roadside are objectionable, as the excessive shade keeps the road in a muddy condition. When you get everything nicely grown you will have insects, but if you can keep a goodly number of birds around they will attend to the greater part of them. Insects can, however, be fought in other ways. Pyrethrum is generally destructive to insects, though not to man, but where it fails to act, arsenical poison can be relied upon. The solutions used of these should be weak enough not to injure the foliage. London purple is generally conceded to be better than Paris green, as it is more soluble in water and makes a better solution. One pound of London purple to two hundred gallons of water can be used on apple trees without injury. The striped cucumber beetle is hard to get at, unless they are present in great numbers, when cold water thrown on them, so benumbs them, that they can be picked off. This leads us to the thought that we must study the habits of insects to successfully combat them.

Mr. Piper — I have used hellebore on roses with good success, and Paris green on potato vines to destroy the bugs.

Mr. Abbot — I use whale oil soap and crude carbolic acid for lice on the under side of the leaves.

Mr. Rice — I have treated the gooseberries with white hellebore very successfully. Used dry powder and sifted it over the foliage when the dew is on.

L. R. Bryant — I have not used Paris green much, principally London purple. The past season was not a good one to judge of codling moth injuries on account of the short crop of apples, however I am satisfied that the London purple will destroy them and also the canker-worm. There is great danger in having the solution too strong, in which event it would scorch the foliage. I use one pound to one hundred and sixty gallons of water. The solution can be stronger in the early part of the season than later when the foliage is dryer and will take up more of it.

Mr. Austin — I used Paris green for slugs on roses successfully; one application is sufficient.

Question — What is the best keeping apple to plant in Northern Illinois?

Mr. Bryant — I would recommend the Willow Twig for one, it has been tried more than any other and proved successful, I think the Salome is one of the best winter apples, quality considered. The old trees bore a good crop this season but the young trees have not fruited enough to amount to any thing, the nursery trees have had a fine growth this year.

THE VEGETABLE GARDEN FOR FAMILY USE.

Mr. Piper — I have been at vegetable gardening for fourteen years and have tested a great many varieties, especially of potatoes, I think the Early Bancroft is the best early potato, the Early May, Early Sunrise and Watson are all good early sorts, the Empire State is the best winter variety; I raised last year two hundred and fifty bushels per acre of them, the White Star is also a good keeper and yielder.

Mr. Bryant — The White Star did not yield well with me.

Mr. Piper — I consider that the White Star does better planted on high ground.

Mr. Rice — The White Star has been a very poor yielder and very poor in quality with me.

REPORT OF COMMITTEE ON FRUIT EXHIBIT.

Your committee, appointed to report upon the exhibits, find the following on the tables, to-wit:

W. H. Hansen, Franklin Grove — *19 plates*, to-wit: Twenty Ounce, Glori Mundi, Tallman Sweet, Grimes' Golden, Willow Twig, Rawles' Janet, Roman Stem, Flushing Spitzenburg, Fameuse, Domine, Seek-No-Further, Limber Twig, Michael Henry, Ben Davis, Whitney Russet, an unnamed Russet and two seedlings.

William Bell, Franklin Grove — *7 plates:* Northern Spy, White Pippin, Roman Stem, Domine, Westfield Seek-No-Further, Minkler, Romanite.

C. Durkee, Franklin Grove — *3 plates:* Rawles' Janet, Roman Stem, Willow Twig.

D. F. Lehman, Franklin Grove — *9 plates:* unnamed.

J. V. Cotta, Nursery — *1 plate:* Garfield.

W. Wicks, Mt. Carroll — *1 plate:* Willow Twig.

Warren Dysart, Franklin Grove — *1 plate:* Domine.

Mrs. M. Hall, Franklin Grove — *1 plate:* White Pippin.

Joseph Mattern, Franklin Grove — *1 plate:* Cayuga Redstreak.

Marcus Wingert, Franklin Grove — *6 plates:* Northern Spy, Willow Twig, Tallman Sweet, Winter Pennock, Roman Stem, Rawles' Janet.

L. C. Hansen, Franklin Grove — *6 plates:* apples unnamed and one plate of a seedling crab.

L. W. Reigle, Franklin Grove — *2 plates:* Willow Twig and Rawles' Janet.

Dysart Lincoln, Franklin Grove — *9 plates* of New York grown, and *2 plates* of home grown apples.

The exhibit, in the main, was a fine one, most of the plates being of large, handsome, well kept specimens, proving that Northern Illinois is capable of producing an excellent assortment of apples, sufficient for all our wants, if trees are properly grown and fairly well cared for in the orchard.

We also find a fine exhibit of specimen branches of the following varieties of evergreens: hemlock and Norway spruce, balsam fir, white Austrian, Norwegian red, Scotch and sugar pine, American and Siberian arbor vitæ, red cedar and Irish juniper, and, also, a branch of the European larch — all correctly labeled. Only regret that the ten thousand farm owners of Northern Illinois could not

all have been present, to better acquaint themselves more fully with the different types of these useful, and, altogether too much neglected, trees.

All of which is respectfully submitted.

W. Wicks,
D. J. Piper,
J. V. Cotta,
Committee.

After another song had been rendered by the quartette, the committee appointed to take into consideration the advisability of asking the legislature to pass some law to protect the people from the tree dealer, made the following report, which was adopted:

Your committee appointed to take into consideration the advisability of legislative action, against the perpetration of frauds and other dishonest practices in the sale of nursery stock, respectfully report as follows:

Fully aware of the deplorable fact, that for years the interests of horticultural progress and development has been greatly jeopardized and retarded in our great State, through misrepresentations, deceits and other fraudulent practices, perpetrated by dishonest and irresponsible persons interested in the sale of fruit and ornamental trees, vines, shrubs, plants, etc., and that the time has fully come when the people of our State should demand of their legislature the enactment of a well-defined statute, prohibiting, under adequate penalties, the perpetration of such impositions; and believing that such legislative action would greatly promote the pomological, horticultural and agricultural interests of our people and reduce the evil practices alluded to, to a minimum; therefore,

Resolved, That our members of the State Board of Horticulture be instructed to confer with the other members of said Board and procure, if possible, their co-operation of the State Board of Agriculture for the purpose of obtaining such suitable legislation, as the importance of this subject demands.

All of which is respectfully submitted.

J. V. Cotta,
Jonathan Periam,
L. R. Bryant,
Committee.

Committee on Final Resolutions reported as follows, which, on motion, was unanimously adopted, and, after another song, the Society adjourned *sine die*.

WHEREAS, It has been our pleasure to meet the past two days in Annual Convention, at Franklin Grove, and

WHEREAS, The success of this meeting has been assured in great part by kind assistance from various sources,

Resolved, That our sincere thanks be returned to the citizens of Franklin Grove in general, for the hearty co-operation, and in particular to Mr. P. C. Rooney for the use of the commodious hall, so admirably fitted for such a gathering as this. To the Messrs. Whitney and W. C. Scott, to whom we are indebted for these tasteful decorations: to the C. & N. W., and I. C. Railway for reduced rates, which did away with the necessity of some of us walking here: to the Franklin House for a liberal dispensation of physical necessities for a moderate fee. Nor would we forget the æsthetic pleasure derived from the music furnished by the Franklin Grove quartet. The hospitality of Mr. A. R. Whitney,—but we have already drank to his health and last, but not least, our thanks to the ladies who have inspired our session by their presence.

J. S. JUDD,
E. W. GRAVES,
JONATHAN PERIAM,
Committee.

PROCEEDINGS.

OF THE

Pike County Horticultural Society,

FOR THE YEAR 1888.

ROBERT ANDERSON, Secretary.

On the 16th of February, 1867, was organized, at Pittsfield, the Pike County Horticultural Society. The following named-gentlemen were elected officers:

President — Edward Connett.

Vice-Presidents — Richard Perry and Thos. Williamson.

Secretary — William H. Johnson.

The Society was, for several years — say up to 1878 — a success, holding meetings in different towns of the county, which were generally well attended. Since that time there has been but little interest taken in fruit-growing, except by a few men who make a business of growing apples for market.

On the 23d of May last, our Society was re-organized, with a membership of twelve, all men who take some interest in fruit-growing; Richard Perry was chosen president, and Robt. Anderson, secretary. Since that time three meetings have been held, June 2d, July 28th and December 7th. At the last meeting some reports of the apple crop were given. F. Cadwell & Son report having shipped about 13,000 barrels, a good portion of which they sold at $2.25 and $2.50 per barrel, on track — a good sale. The bulk of their second quality is still in store waiting for a better price than the market can now afford. Other parties made favorable sales, from the best information at hand. The two townships of Griggsville and Flint

sold about $30,000 worth of apples this season, and Pike County not less than $75,000 to $100,000. The apple crop was much fairer in this county than it has been for some years, owing, we think, to the abundance of rain in the spring, which tended to destroy the codling moth, and, in some cases, to the use of arsenical poisons. This remedy will be used much more extensively next season, as it is thought to be a great success as far as tried.

PROCEEDINGS

OF THE

Kankakee Valley Horticultural Society

FOR THE YEAR 1888.

Reported by LENNINGTON SMALL, Secretary.

FEBRUARY MEETING.

The best February meeting ever held by the Kankakee Valley Horticultural Society, convened at the court house last Saturday afternoon; about fifty persons were present.

President Barnard called the meeting to order and gave a short verbal report of the last meeting of the State Society. The observance of Arbor Day was favorably commented upon by Dr. Small, Cooper, Cunningham, Barnard and others. Mr. Mortimer spoke at some length; he referred to the late destructive storms of the northwest, and believes they could be largely obviated in the future by tree planting. In conclusion he said if one-fifth of this entire country was in timber we could raise more grain than at present, but one of the greatest advantages of this day is the teaching of the rising generation to plant trees and the benefits to be derived therefrom. A resolution stating it to be the sense of this Society that the Governor appoint the Friday nearest the middle of April as Arbor Day for this locality was adopted.

Mr. G. G. Barber, essayist, read a short paper on apple orchards. His orchard has fared like other Northern Illinois orchards and is nearly destroyed, but that part located on a northern slope is in better condition than that on the southern slope. His experience in

pruning has been that bearing trees need but little trimming more than the removing of decayed branches; he asked the question: will it be safe to plant a new orchard on the site of the old one? Mr. Mortimer answered that as a rule he did not favor the practice, especially if a few of the old trees remained. Young trees need sunshine and cultivation, besides the land is often exhausted of the special plant-food required for the growth of trees; and insects are more numerous. If, however, no other site is available, plant on the old site, but before planting, cultivate thoroughly, make the land rich with manure and supply wood ashes. With judicious treatment and the selection of proper varieties a fair degree of success may be obtained.

Dr. Small being called on said: I have had but little experience in this line. My impression is that if the old trees are entirely dead the same site will do.

O. W. Barnard — I planted on the same ground, I dug out the stumps in the fall making a large hole, left it open until spring, then burned straw and brush in it. When ready to plant the young trees, hauled in fresh earth, kept young trees well mulched. I planted in this way three years ago and the trees are still doing well.

G. G. Barber — A white fungus growth has appeared on my trees, which, when allowed to remain on is fatal.

Mr. Mortimer — Put a piece of hard soap in your trees, allowing the rain to wash it down the trunk.

H. S. Bloom — I tried that some years ago and it took off the bark; wash it with soft soap.

Mrs. G. Decker read a selection entitled "A Plea for Home," which was well received.

President Barnard followed with a paper on

EXPERIMENTAL STATIONS.

BY MILO BARNARD, MANTENO.

Each passing year demonstrates more clearly, to my mind, that we must have different varieties of fruit for different soils and situations in order to succeed in fruit growing. And, in order to grow new sorts suited to each and every condition, or test the adaptability of those that have originated elsewhere, experiment or trial sta-

tions are necessary, in fact indispensable, to rapid progress in fruit culture.

I find, by consulting horticulturists of other states and from reading the reports of the different state societies, that many of our sister states are getting the start of Illinois, and are far in advance in this matter. Iowa, in addition to her home station at Ames, has near, or quite, a score of sub-stations, selected and controlled by the State Horticultural Society, and Prof. Budd has several hundred additional stations that he furnishes with trees and plants for trial purposes. And Minnesota, Wisconsin, Michigan and other states are working with good results in this direction, and if we are going to plant our apple orchards again, and with varieties suited to the prairie portion of our State, we must move with energy and determination in the matter, and either grow seedlings to the manor born, or avail ourselves of the work done in other states, and procure the valuable sorts they have originated, or have procured from other lands. In either case, we want stations to test these fruits before recommending them for general planting. And, in order to accomplish this necessary object, we must begin at the bottom and work up. These things do not usually come down from above, but must originate amongst the people who need them.

I think, from the slight attention I have been able to give to the study of the topography of Illinois and neighboring states, that the Northern and Central sections of Illinois will require a less number of varieties to accomodate each and every locality, than will be required by any other area of equal extent, from the fact that this portion of our State presents such a uniformity of surface and soil.

Let us take Wisconsin as an illustration. Along the lake shore, from five to fifteen miles back from the water, they successfully grow all the old eastern apples that are grown on the opposite side of the lake in the State of Michigan; but outside of this narrow belt they can grow only a few of our most hardy varieties, including some of their own seedlings and Russians. But these will not succeed in all situations; only on the most elevated lands, or a northern slope, and clay soil do they give satisfaction; on a warm, sandy soil they will not succeed.

The Russians seem as hard to please as others, blighting badly when not suitably located. My remarks refer to the southern half of the State only,— the northern part is, as yet, practically without home-grown apples.

What I have said of Wisconsin will apply equally to Minnesota and portions of Northern Iowa. The Wealthy, Roman Stem and many others that succeed fairly well here, will not do in Northern Iowa, except in the most favorable situations; and in Minnesota there are still greater obstacles to surmount,— in some soils and

situations everything in the apple line blights or is killed by the winter, unless it may be some seedling grown by Gideon and others. And right here is where the lesson taught by their energy and perseverance in experimental work should be heeded by us in Illinois, for, with all those difficulties to contend with, they are going right along growing and testing new seedlings by thousands, and have the Russians well scattered, in some places doing well and failing in others.

Peter M. Gideon was the pioneer in growing seedling apples in Minnesota, and firmly believes nothing will stand the test winters without crab blood in it. Twenty-four years ago he planted a few seeds of the Cherry Crab, procured in Maine, and from this lot he grew the Wealthy, which bore fruit in seven years from the seed. He then kept crossing his crabs on the Wealthy and other sorts that he could keep alive long enough to fruit, until he claims he has twenty or thirty varieties better and hardier than Wealthy, and some of them better keepers. He now plants annually the seed from a hundred bushels of apples, and says his success has far exceeded his most sanguine expectations. He is located at Excelsior, in the latitude of St. Paul. Ten years ago the State purchased the farm he is now on for experimental purposes, gave him money and told him to go on in the good work. He has tried many of the Russians, but claims they will not do on that farm, as they all blight and die; but he has one of those bad locations — warm, loamy soil, — on which apple trees bloom two weeks earlier than they do one mile distant on clay soil.

And it gets slightly cold occasionally. Three years ago fifty-five degrees below zero, killing Duchesse and Wealthy to the ground, but his other named seedlings came through unscathed and bore a good crop of fruit the next season. In Wisconsin also, the experiment work goes bravely on, Peffer, Phœnix and many others are growing seedling apples. And Loader has been experimenting with the strawberry for thirty years, and is more enthusiastic now than when he first began. He has now seventy varieties beside the Jessie, of undoubted merit, and is only waiting to see how Jessie will adapt herself to all localities and soil, before sending out other candidates for public favor. But the trial, testing and experimental work now being prosecuted in Iowa will most likely benefit us most, as they are more nearly on our parallel of latitude, but of the labors of Prof. Budd and others in that State you are all well advised.

But what shall we say of our own State touching the above named line of work, we can say that Piper, Bubach and Warfield, are meeting with some success in the seedling strawberry business. And Gaston is pushing the Hennepin apple. A chance seedling that he found growing in Putman county. And this is all that comes to mind. What a showing for the great state of Illinois, where we should

have one large general experiment station for the whole state, and smaller ones for each horticultural division, and sub-stations for each county. With all these trial and experiment stations in the hands of wide-awake, live men, it need not be long before our orchard sites will again be planted with trees that will give fair satisfaction, and the importation of apples into Illinois cease to be a necessity.

SPECIAL MARCH MEETING.

Notwithstanding the storm Saturday, twenty-five of Kankakee County's substantial horticulturists and farmers assembled at the supervisors' room, at the Special Horticultural Meeting, to discuss tile drainage.

The meeting was called to order by President Milo Barnard. Minutes of the last meeting were read and approved as published. After some discussion, the subject of "Trees and Small Fruit Planting" was selected for discussion at the next meeting, April 14th.

Mr. Cunningham proceeded to open the discussion on tile drainage by reading an interesting paper on the effects of drainage, in which he took the ground that tile drainage has become a craze; that millions of dollars are annually spent in its advancement, and that the general effects of tile drainage are not beneficial to the country, but advised draining the surplus water into reservoirs or ponds for convenience of the farm.

He was followed by Messrs. O. W. Barnard, Mortimer, Dr. Small, Lee, Voight, Greenwood, Powell, Major Williams and others, all of whom were strong advocates of tile drainage. The remarks of some were quite lengthy, and the discussion, as a whole, was very entertaining, but being entirely oral it is impossible to give even a brief report that would do it justice. There were different views taken of almost all divisions of the subject, but a majority of the members favored deep tiling with good outlets.

In regard to tree roots filling tile, Dr. Small said tile laid thirty years ago, twenty feet from a large elm, had not been injured by the roots, while a well the same distance from the tree had been ruined. When the tile is running, and the ground is full of water, it is not

necessary for the roots to enter the tile for water, and when the water in the grounds sinks below the tile, the tile is dry and there is no attraction for the roots.

Major Williams said the roots from a black walnut tree planted three feet from his tile drain had run in the tile.

B. G. Lee said tile running through his grove had not been injured by the roots. He had rather own eighty acres of land well tiled, than one hundred and sixty not tiled.

JUNE MEETING.

The Kankakee Valley Horticultural Society held its June meeting, Saturday, the 23d inst., at the beautiful residence of its late President, Milo Barnard, one mile east of Manteno.

The forenoon was spent in rambling over the extensive grounds, examining the hundreds of varieties of forest and ornamental trees, fruit-bearing trees, and plants in the grove and experimental grounds. The dinner tables were spread under the large evergreens in front of the residence and were heavily loaded with the good things which the horticultural ladies have such an enviable reputation for providing.

At 3 P. M., First Vice-President Henry Mortimer called the meeting to order. Mr. Mortimer spoke with feeling, and at some length, of the sad circumstances which caused him to become the presiding officer, and the irreparable loss which the Society had sustained in the death of President Barnard. He was followed in his remarks by Wm. Cooper and several of the older members and intimate friends of President Barnard. It was moved by Maj. Williams, and carried, that, out of respect to the memory of our deceased members, we dispense with the ordinary business and discussions of this meeting, and adjourn until August, immediately after the adoption of memorial resolutions and reading of the essays.

The Secretary offered the following, which was unanimously adopted by a rising vote:

WHEREAS, It has pleased the Ruler of the universe to remove from our midst our late president, Milo Barnard; and,

WHEREAS, The intimate relations held by our deceased brother with this Society, render it proper that we should place on record our appreciation of his services as a horticulturist and his merits as a man; therefore, be it

Resolved, By the Kankakee Valley Horticultural Society of Illinois, that while we bow with humble submission to the will of the Most High, we do not the less mourn for our leader, our founder, and our president, who has been called from his labor to rest.

Resolved, That in the death of Milo Barnard this Society loses a leader who was always active and zealous in his work as a horticulturist, one who was wise in council and fearless in action; an honest and upright man, whose virtues endeared him not only to the members of this Society, but to all his fellow citizens throughout this, and adjoining States.

Resolved, That this Society tender its heartfelt sympathy to the family and relatives of our deceased president in this, their sad affliction.

Resolved, That these resolutions be entered upon the minutes of this Society, and that a copy of them be sent to the family our deceased brother.

AUGUST MEETING.

The Society held its August picnic and meeting at Park Hall, Bonfield, Saturday, the 11th, with over one hundred persons present. The forenoon was spent in friendly social greetings. At 12 o'clock refreshments, which did full justice to the ladies who are deservedly noted for their skill in the culinary art, were served with a bountiful hand, and heartily enjoyed. At 1:30 P. M. President Mortimer called the assembly to order. After a song by the Bonfield choir, Mr. Stroud, of the Vegetable Committee, opened the discussion on vegetables. He stated that vegetables this year had been a success. His remarks drew out some discussion on potato growing.

Mr. Henry was of the opinion that we plant too much seed; that small potatoes have too many eyes; he believing in planting the largest and best.

R. McGregor thought that small seed would raise as good a crop as large seed.

J. Fundy gave his experience in raising potatoes; he had observed that a moderately dry season, followed by a soaking rain, just as the tubes begin to form, is the most favorable.

President Mortimer said on very rich ground plant potatoes farther apart as they will make a vigorous growth of tops, and shade the ground too much if planted thickly.

President Mortimer called Mr. Stroud to the chair and read his essay, entitled

HORTICULTURAL SCRAPS.

BY HENRY MORTIMER, MANTENO.

To the Ladies and Gentlemen of the
Kankakee Valley Horticultural Society:

The work of the farmer and fruit grower during the busy season of summer, is not calculated to give him that kind of inspiration that will enable him to produce a presentable essay; when he has more physical work than he can properly dispose of, the mind does not freely respond to additional labor. At the eleventh hour I have hastily thrown together some ideas as they occurred to me, that may prove valuable, or otherwise, as they bring out discussion in which the members here, who have practical knowledge, take part. These discussions of members, who pursue the same object — the successful growing of fruits — owing to the different methods adopted and the various soils and exposures on which fruits are grown, are always interesting and valuable. My paper is entitled "Horticultural Scraps," by this I mean that I shall not confine myself to any one subject, but take such views of the horticultural field as may perchance appear in sight.

In my remarks on fruit I shall give the apple the first place, as it undoubtedly deserves it. Have we been successful during the past few years in growing it? This is an important question and I am sorry to say that I am compelled to answer it in the negative. Our merchants in Kankakee and throughout our county can tell us that they cannot get home grown apples to supply their customers, but must order from Michigan, New York or other places. Can not this state of affairs be remedied? Can we not at least grow enough for our own use? A few years ago considerable quantities of apples were grown in our county, including many kinds of excellent quality. We do not produce them now, and why? Those who have noticed the weather closely tell us that the seasons have changed, that the summers are drier than they used to be, that for want of moisture the trees dry up and suffer in summer, making a poor sickly growth, and one hard winter completes the work of destruction. Can this condition of affairs be remedied? To some extent I think it can, first, by planting hardy varieties that have passed through our heated summers and arctic winters without injury; such varieties as the Duchesse, Wealthy and Whitney's No. 20, are ironclad and will succeed if they receive the proper care.

Those who have tested it state most positively that double working, by top-grafting, the half-hardy varieties on some iron-clad stock,

like the Duchesse, are sure to succeed in growing apples, and plenty of them. These top-worked trees will, of course, be more expensive in the first place, but in the end they will repay the increased cost a hundred-fold. I believe that much good will be accomplished by the introduction of hardy Russian stock, but many of these varieties are yet in the experimental stages, and, for present use, we must depend largely on varieties that have proven successful.

Are there not other causes that will help us account for the general failure of the apple? In passing through the country we see trees standing in grass. Where the grass is not mown, or pastured, we see a good crop of it in almost any orchard. Now, I think we are expecting too much of our land when we ask a crop of hay and a crop of apples off the same piece of ground; and while we may get some hay, our apple trees will soon rebel, and either die outright or cease to yield fruit under such unfavorable conditions. If we pasture the orchard the case is only slightly improved,— we are still raising two crops where only one can be profitably grown. The grass roots take both food and drink from the trees: they are really starved, and after one or two hard winters they are ready for the brush pile. And then we say this is no country for fruit, any way, and wish we hadn't planted those trees, and conclude that the surest apples to raise are Irish potatoes,— we can sell them, and buy apples from our storekeepers. Buy apples! What does that mean? It means that you and your family will be hungry for fruit more than half the time, unless you happen to live in, or very near, a town, and always have a few spare dollars in your pocket.

Now, what is the inference from what I have said about apple planting? It is this: plant hardy kinds, give them plenty of room, sunshine and good soil are needed, cultivate thoroughly, manure the land well; after the trees come into bearing, sow buckwheat on the land at the time of the last cultivation, plow under in the spring. Cultivate through the spring and early summer, and sow buckwheat again.

Mr. A. C. Hammond, secretary of our State Society, sows rye in the fall, and plows under about the first of June the next year. He says this treatment gives splendid results. If you try the last plan, and have a good promise for a large crop of rye, do not be tempted to secure that crop, it will spoil your orchard if you do. You sowed it to plow under, and under it must go, if you want to save your trees and grow fruit.

If you fear damage from mice or rabbits in winter, wash your trees with about one and one-half to two pounds of copperas, dissolved first by boiling in water, to one peck of lime. No animals will eat bark covered with copperas, and your trees will be safe.

Always prune your trees when young to avoid cutting off large limbs when older, as such pruning, in our country, is always

injurious. While our apple crop is becoming less each year, one of the easiest kinds to grow are wormy ones; unfortunately there is no demand for this kind of apples and, as they are scarcely fit for hog feed, they are only a trouble and expense to us, without a single redeeming quality in their favor.

While our system of growing apples is a poor one for the apples, it is good, in fact the very best, for the codling moth, which produces the worm in the apple. The grass and weeds in our orchards afford an excellent shelter for the larvæ of the moth during the winter, and in summer we have them in countless numbers to damage our fruit.

The late Mr. Dixon, of Iowa, a very extensive orchardist, was, I believe, among the first to use an arsenical preparation for the destruction of this insect. Since that time Prof. Budd and other noted horticulturists have advocated such measures. Prof. Forbes, by careful experiments, has proved that a large per cent. of our fruit can be saved by this remedy. Mr. A. C. Hammond states that last year he grew perfect apples on sprayed trees, while on trees not so treated nearly all the fruit was wormy.

On account of the great danger by accident from the careless use of pure arsenic, Professor Beale recommends London purple; most orchardists use arsenic, however, as it does not clog the nozzle of the force pump in spraying. It has been found by experiment that a very small quantity of arsenic is sufficient for the purpose. Two and one-half ounces, first dissolved by boiling in from one to two gallons of water, in which was dissolved one-half box of potash or concentrated lye, will suffice when mixed with one hundred gallons of water. This should be sprayed over the trees with a force pump, when the blossoms are about half off, and again a few days later, just before the young apples turn downward.

Our cherry crop appears to be more uncertain even than the apple. Of late years, when they escape winter killing and injury by late spring frosts, we find most of them wormy, which proves that the curculio is here and intends to stay, and where there are no plums, the cherry is accepted instead. Even when we escape the curculio, another destroying agent is ever at hand to deprive us of fruit. I allude to the birds; of late years the birds have either become greater fruit eaters or more numerous. They take the cherries off a tree with surprising quickness, not waiting for them to get fully ripe. The raspberry and blackberry receive their attention in their respective seasons, and they do not ask for toll for having destroyed a few insects, but during the past season they seem to be satisfied with nothing less than the entire crop. In some places the birds must be got rid of or small fruit growing abandoned.

Speaking of raspberries, I know some instances where plants of such good varieties as the Tyler, Souhegan and Gregg, of the black-

cap family, that were set two years ago last spring, and carefully attended, failed to give a crop this year. My own planting has been better on high than on low land. I think the fruit requires an open, airy space, good soil and good, clean cultivation, to be successful.

Of the red raspberries, the Turner, considering its great hardiness, is one of the surest kinds to grow for family use. Do not allow many canes in the row, keep sprouts and weeds down by frequent cultivation, and it is about as certain to yield fruit as any plant or tree that I ever knew.

The Cuthbert is a most excellent red raspberry, but is liable to be killed by our severest winters. The newer kinds, the Marlboro and Crimson Beauty, give some fruit, but I prefer the Turner. The Reliance is too dry and the berries crumble in picking. The Thawch is a small plant, extremely hardy, productive, fruit very handsome, quality second rate, very firm, good for shipping. Shaffer's Colossal is a large berry, large plant, very productive, and the fruit is the best of all for canning. This raspberry, owing to its large size of bush, should be planted eight feet by four.

Among blackberries the Snyder is one of the most reliable of the old sorts. When planted in rows nine or ten feet apart, it is a pleasure for the lady members of the family to gather the fruit, without having their clothes caught and often torn by the sharp thorns with which the bushes are covered. Stone's Hardy is a hardy and prolific bearer, it is not as good for canning as the Snyder, its only value is due to the fact that it is later than the Snyder, thus prolonging the season for this fruit. In most cases of blackberry culture the canes occupy too wide a space in the rows. Keep the rows of bearing canes very narrow, cut off all the rest even with the ground; cultivate well the first year, after that very shallow or mulch, and you will have blackberries and plenty of them. The largest crop is generally the third year after planting. Plantations require renewing every few years. When properly managed the blackberry is probably one of the most certain fruits that can be grown in our country and will prove a valuable addition to our winter's store, as they are easily kept by canning; the only wonder is that it is not more generally grown.

Speaking of plums, I hardly know what to say. The European varieties are not hardy with us, and if they were, in nineteen cases out of twenty the curculio would destroy the fruit. Of the newer kinds of American origin I have some hopes.' I have the Wild Goose, De Soto, Bassett and some other kinds that have blossomed every spring for the last four or five years, but I have failed to get fruit. In the case of the Wild Goose, I have reason to believe the blossoms are imperfect when grown by itself. With some of the others I

think the curculio destroys the fruit. I planted some wild plums; these give fruit every year, but the quality is only second or third rate. This, however, convinces me that we have kinds that the curculio can not destroy. It is claimed by those who have tried it, that the Wild Goose and Miner, when grown in close proximity, fertilize each other, and by some growers that the Mariana is the best fertilizer for the Wild Goose. Another very valuable quality of the Mariana is that it will grow from cuttings which will send up no sprouts. The Wild Goose and Miner when grown on their own roots send up thousands of sprouts, which if not kept cut down, will in a few years form an impenetrable thicket and fill the ground with roots so that nothing can cultivate through them. If the Mariana does not send up suckers from its roots it will prove valuable as a grafting stock.

I have not spoken of the strawberry; it will hardly do to leave it out. We all like it. I recommend everyone who owns as much as one lot to plant them. I have tried a great many different kinds and I know we now have some that are unusually good. Briefly, I recommend a trial of Bubach No. 5, this is very productive in plants and fruit; the berry is large and good and ripens evenly. If you have never raised strawberries it will surprise you the first time you see the fruit of this plant. It needs another kind near to fertilize the blossom: for this, use Jessie, a very productive staminate variety that produces large fruit. The Itasca is a wonderfully productive variety, it is the best in quality of any strawberry I ever tasted; it is about the size of the Crescent, marble shaped, and some specimens are rather light in color; try this by all means. Another good pistillate variety is the Haverland. A very small plot of ground planted to these four varieties will furnish an abundant supply of this most delicious fruit for any family.

I have nothing now to say about the grape. Every family should grow their own supply, which can easily be done.

I will close this paper by devoting a few words to the subject of cultivation. I have failed oftener when pressing farm work was on hand, to obtain fruit, or at least a full crop, on account of the lack of cultivation, than from any other cause. Weeds are easily destroyed by early and frequent cultivation before they make any show; the small white rootlets when exposed to the sun soon wither and die. But if there were no weeds, cultivation is still necessary to keep the soil from crusting and to let in air, which really supplies the greater part of the food of plants. For this reason, weeds, which compel us to cultivate, are a blessing in disguise. We should cultivate often, and know how to cultivate each particular crop.

Blackberries should never be deeply cultivated after the first year. Deep cultivation tears and breaks the roots, which are needed to enable the plant to grow fruit.

The raspberry will bear deeper cultivation than the blackberry,

but they, too, can be injured by plowing deeply near the plants and breaking the roots.

Plant strawberries four feet apart in rows, and cultivate between, as the roots of the strawberry go down deep in the earth. It wants a deep, rich soil; so in the fall, from the first to the tenth of September, dig, or cultivate, between the rows fifteen inches deep, if you can,—not, of course, coming near enough to the plants to work them out. The strawberry plant grows slowly in hot, dry weather, but as the cool nights of fall arrive it grows vigorously. This deep working will pay, by giving the roots a chance to spread and gather plant food. It is not a difficult matter on any rich land to raise enough strawberries for home use, but growing them by the half acre, or in larger lots, is altogether another affair. To grow in quantities for market, I think it would pay to make the land very rich with barnyard manure, then cultivate in potatoes, or other hoed crops, for one or two years; keep the land clear of weeds, not suffering any to produce seed. On this clean land set your plants, using phosphate and wood ashes for manure. In this way the labor of keeping down the weeds would be greatly lessened.

This Society, however, has never advocated the growing of fruits for shipment in competition with regions better adapted to their culture, but its teachings have always been in the direction of encouraging the culture of fruit for home use. This was the prime object in its inception and origination, and when every owner of a lot or a farm grows an abundance of fruit for the family's supply for the entire year, the work of this Society will be fully accomplished in this direction. But this time is yet in the future, but even were it accomplished, there yet remains much in horticulture to attract our attention.

The cultivation of flowers and shrubbery, the planting of evergreen and deciduous trees for ornament, for shade and protection against the icy winds of winter, would still keep us employed in doing good.

Now that Agricultural Experiment Stations are, and will be established throughout our country, we will soon know the value of new plants and fruits as they are originated, by receiving disinterested reports of their behavior soon after testing them. This information will prove of incalculable advantage to the horticulturist as well as to the farmer.

Taking the outlook altogether, the view is not very encouraging for the successful growth of fruits; yet, "though the cloud be dark, it has a silver lining." I believe that the difficulties in our way are only problems that admit of solution, they may be complex and puzzle us for a time, but head and hand united and working together will be sure to conquer in the end, and then success will give us pleasure for having triumphed over difficulties.

OCTOBER MEETING.

The Kankakee Valley Horticultural Society held its October meeting on Saturday, the 13th, at the residence of F. C. Eggleston, in Limestone. Owing to a combination of unfavorable circumstances, including the weather, the attendance was not as large as had been expected, but those who did attend felt well paid for their effort.

President Mortimer called the meeting to order at 3 P. M.

On motion of W. S. Hawker, reading the minutes of the last meeting was dispensed with.

Both of the essayists being absent, Leon Hay was invited to give the Society a verbal report of his visit to the St. Louis fair and exhibition, which he proceeded to do in an interesting manner, dwelling especially on the magnificent show of fruit, which included five hundred varieties of apples, mammoth pears five inches in diameter and six inches in length. He also attended a successful meeting of the Missouri State Horticultural Society.

The question being asked are any varieties of pears successful here, President Mortimer answered that he was of the opinion that we need a soil containing more iron and potash; that for a few trees for family use the ground might be prepared, but it would not pay for a market crop. The Keiffer will fruit here, but the farther north it is grown, the poorer the quality.

W. S. Hawker asked in regard to trimming raspberry bushes in which the main stem had been allowed to grow and make runners.

Answer— Cut back to three to five feet in length according to the strength of the canes.

Mr. Mortimer gave his method of raspberry culture as follows: Start with good plants, plant three feet apart with rows eight feet apart; pinch off all but two or three sprouts; pinch out the top of the cane at about one foot in height the first year and two feet the second; plant Tyler and Souhegan for early and Gregg for late.

DECEMBER MEETING.

One of the best attended annual meetings ever held by the Kankakee Valley Horticultural Society convened at the pleasant hall of Whipple post, G. A. R., Saturday, December 1st. Dinner was served in the hall by the lady members of the Society. At 1:30 President Mortimer called the meeting to order.

J. B. Wakeman, essayist, read an interesting and thoughtfully prepared paper entitled "The Seed and the Scion," in which he gave a very feasible reason for the decline of our apple trees—that of poor pedigree.

Leon Hay brought up the subject of entomology as connected with horticulture, the work being accomplished by the Experimental Station and the advantages to be derived by the Society taking more interest in the subject. Mr. Hay also spoke of the inabilily to devote sufficient time to the discussion of floriculture and mentioned the importance of founding a floral society. At his suggestion the president read a report of the "Ladies' Floral Guild" of Hancock county.

Mrs. Eggleston stated that the fruit of an apple orchard near their place had been almost free from worms this year, that the proprietor attributed it to his sowing wood ashes among the branches of the trees while in bloom.

THE SEED AND THE SCION.

BY B. J. WAKEMAN, CHEBANSE

Two simple words, yet had they been properly united, our orchards would not be in the condition they are to-day.

The apple, the oldest and best of all fruits that God gave to us, has been the most abused. Go where you will, both in Europe and the United States, where the apple has been extensively propagated, and you will find it is not what it once was. In our own State, we see, year after year, the decline of our orchards, and the young trees we plant do not possess that vigorous constitution they once did. Our long keepers are no longer winter apples, but will hardly stay with us through autumn; our orchards that once were good for forty years or more, now leave us at twenty, and the fruit they produce is not as good as it once was. What is the cause of this decline?

This question has been discussed at our meetings time and again, yet we are no nearer solving it than we were years ago. There is certainly something wrong, and this wrong has been going on ever since nurserymen began to propagate the trees extensively. I have been in the nursery business for the last thirty-five years, and I do say I have helped bring our orchards down to the miserable condition they are now in. It is a fact that stares me square in the face, and every time I look upon our poor sickly trees, I feel guilty.

They tell us budded trees are hardier than root-grafted, or *vice versa;* they tell us about grafting on Whitney and Soulard crab; they tell us to plant Russian trees; they tell us to get our trees from the north, and that eastern trees are hardier, and bear finer apples than our home growth. Now, this may be all good advice, but is this going to make our trees what they were thirty years ago? Do you think our new kinds, that are now being introduced, will be any healthier after thirty years of propagating than our old kinds are to-day?

Now, let us take for an example one apple seed, and follow it, from the tree through all the different changes, till it is old enough to produce fruit. Although I do not claim that all trees will be like this, yet it is a fair sample of many orchards we can see all over our country.

We will let the seed tell its own story: "I was an apple grown in the State of New York. When my master gathered his apples I was rejected, because I was a little knotty, knarly thing. I was not to blame for it, because mother was a sickly, stunted tree.

After all the good apples were gathered, my master picked me up, with many others like me, took us to the mill, and made us into cider. Here I lay in the pomace till I got very sour, when the seed man came along, and washed me up and carried me to the seed store. Here I got very musty, and came near losing my life. I remained here till in the winter, when I was sold to a nurseryman out in Illinois, where I arrived in due time. From here I was sent to Kansas, where, they say, apple seed like me grow to be large stalks the first year. Here they planted me in nice, rich soil, and I sprouted in due time. But there were many of us poor, weakly seeds that could not keep up with our companions, and the result was I made a poor growth; in fact, I was about smothered when fall came. I was too small to graft, so they packed me in with the small third class trees, and shipped me back to Illinois. Here they packed me away, and when spring came I was sold to a nurseryman, and he again planted me out; so by the next fall I was large enough for a second class stock.

During the winter, they cut me in pieces and grafted me to a poor weakly scion, whose parentage was even worse than my own. But, with much care and coaxing, I managed to make a stunted

growth. When I was three years old, they dug me up, cut off most all my roots, packed me away in the cellar, among the moss. Here I remained until spring, when I was taken out and heeled in. But in a few days, it got very cold, and my limbs were badly frozen. I had not seen any cold, for they put me in the cellar with my summer clothes on, and when I was taken out, my wood was very soft and tender, so it nearly froze the life out of me. During the spring I was sold to a tree agent, as a second class tree, and he shipped me up to Kankakee, where after a few days, I was delivered to my owner. He heeled me in with a bundle of other trees, where I remained a few days more. But I was finally planted out, and my owner has been watching me these many years. His only reward has been a few nubbins. I am ashamed of my condition, but I am not to blame, my mother was a runty tree, and they grafted me to a scion from a stunted tree so you see, I am of little use for they let me sour in the pomace at home, which made me a sickly seed. They let me get so musty, in the seed store in New York, that it weakened my constitution. They nearly choked me to death out in Kansas, when I was in the seed bed. They nearly ruined me when they grafted me to a sickly scion. They nearly froze the life out of me by stripping off my leaves early in the fall, and keeping me in a warm cellar all winter, and then turning me out in the cold, before my limbs were hardened up. They let me lay in Kankakee, till my roots were half dead. They let me lay heeled in here at home, till it was so late in the spring, I just barely pulled through. They let the hogs rub against my body, and root me around, till my bark was off. They let the horses eat off my leaves, till I nearly choked to death. They let the cattle hook me, till my bark was off in many places, and the worms got in and nearly eat the life out of my body. But the worst of all, they planted me in the grass, and when I grew up to be a tree, they cut off my lower limbs, which has ruined me for life. I can no longer stand these cold winters. My owner has been watching and waiting for me these many years, and his reward has been only a few worthless apples. Oh! What will be the condition of the stock grown from my seed. Seedmen; Nurserymen; beware! I came to you from the Garden of Eden in the fullness of strength. But if you continue to grow me, from sickly seed and scion, I will leave you a total wreck.

Gentlemen this is a true story. You have heard the pedigree of this apple seed. Shall we keep on degenerating our orchards, or shall we call a halt? The remedy is simple. What we have lost in the past can, with care and patience, to a great extent, be restored in the near future.

Does the farmer go into his cornfield and gather the nubbins for his next year's planting, and, if he should follow this up for fifty years, would he improve his corn? Do you think the vegetable

gardener would sell all his choice vegetables and save the culls for seed? No sir, he knows too well that a few years of this would ruin his business. Then, why should we consume all our best apples and save the poor ones for seed? The fact is, two thirds of all the apple trees that are progagated at the present day are from this worthless trash. You may put all the fruits that there are on the face of this earth together, and the apple — the best of them all — has been ten times more degenerated than all of them put together. And, why? Because the seedman and the nurseryman cannot get seed from choice fruit. It is not in the market, at any price. We sell our best apples, and the seed goes to waste. We eat our choice fruit, and don't save the seed.

In conclusion, I will say that, just so long as we keep on planting trees propagated from roots grown from seed of sickly trees, and use scions that have inherited disease for generations, just so long will our orchards continue to leave us. But if we save seed from our hardiest and best apples as we did in the good old days of long ago, and graft them with the best stock to be had, then our new sorts, which are now strong and vigorous, will have come to stay; and our old standbys, which are slowly, but surely, passing away, will revive year after year; and finally greet us with the pleasant recollections of the past.

Members of the Kankakee Horticultural Society, "Look well to the seed and the scion."

PROCEEDINGS

OF THE

Marshall County Horticultural Society,

OFFICERS FOR 1889.

President — E. R. McKinney.
Vice-President — A. H. Gaston.
Treasurer — Mrs. Sarah D. Green.
Secretary — C. S. Rowley.
Assistant Secretary — G. A. Bangs.

LIST OF MEMBERS.

Bangs, George A.....Lacon.
Barnes, W. M.....Lacon.
Barrett, Rev. J. P.....Lacon.
Blackstone, Raymond.....Lacon.
Cook, G. W. E.....Lacon.
Culp, Everet.....Lacon.
Duchesne, Lewis.....Lacon.
Gale, Dr. F. C.....Lacon.
Gaston, A. H.....Lacon.
Johnson, Rev. J. A.....Lacon.
McAdams, G. G.....Wenona.
McKinney, E. R.....Lacon.
McKinney, Alvah.....Lacon.
Pichereau, A.....Lacon.
Price, Rev. A. C.....Lacon.
Reddan, G. C.....Lacon.
Rowley, C. S.....Lacon.
Rowley, H. E.....Lacon.
Sorenson, H.....Lacon.
Street, F. A.....Lacon.
Wier, Ralph B.....Lacon.

LADY MEMBERS.

Barrett, Mrs. J. P.....Lacon.
Blackstone, Mrs. Eleanor.....Lacon.
Duchesne, Mrs. S. L.....Lacon.
Gale, Mrs. F. C.....Lacon.
Gaston, Mrs. H. E.....Lacon.
Gaston, Miss Lucy.....Lacon.
Green, Mrs. S. D.....Lacon.
Grieves, Mrs. Blanche.....Lacon.
Jenkins, Mrs. George.....Lacon.
Johnson, Mrs. J. A.....Lacon.
McKinney, Mrs. E. R.....Lacon.
Piper, Mrs. Z.....Lacon.
Price, Mrs. A. C.....Lacon.
Rowley, Mrs. Clara A.....Lacon.
Sorenson, Mrs. C.....Lacon.

Society meets the second Saturday evening of each month.

Society organized April 28, 1888, at Lacon, Marshall County, Illinois.

Annual membership fee, twenty-five cents.

SECRETARY'S REPORT.

BY C. S. ROWLEY, LACON.

The Marshall County Horticultural Society was organized in the City of Lacon, Ill., April 28, 1888. Its officers were elected, and a constitution and by-laws adopted.

The object of this society is the advancement of Horticulture, Floriculture and Forestry.

Two or more fruit and flower exhibitions are to be held each year. In June last the Society held a Strawberry and Rose Show in Lacon, which was largely attended, not only by our own people, but was well patronized by surrounding counties. The exhibition was a complete success, and some of the best strawberries — new and old varieties — were exhibited. The display of roses was also very fine, indeed, there being many new and rare varieties shown. At this meetings some new members joined. Regular meetings were held thereafter until the 10th of October, when the Society made their second exhibition. To this vegetables were admitted, as well as horticultural and floral specimens. This meeting occupied four days, and was the finest and largest display of fruits and vegetables ever seen in this county. During the entire time the fair was open

the large hall in which it was held was crowded with an eager and interested lot of people, and many were the exclamations of wonderment and surprise at so grand an exhibition. The Society feel justly proud over their second attempt at a public meeting, and it was voted a complete success. More members were admitted, and all declared that the exhibition for next year should eclipse this one, for they should each and every of them see how much they could do towards good gardening, horticulture and the cultivation of flowers, as well as canning fruit, jelly and preserve-making, pickling fruits, etc. Our regular meetings were then continued about every two weeks, the Society convening at the houses of its members. Since then we have appointed the second Saturday evening of each month as our regular time for meeting.

A delegate, Mayor G. W. E. Cook was sent to the State Horticultural meeting at Alton, and brought back a very interesting report of it. Mr. Cook on behalf of this Society tendered an invitation for the Central Society to hold its next meeting at Lacon, but Normal gained the prize. We intend to renew our invitation at their May meeting and shall send a large delegation, for we feel just like entertaining the Central Horticultural Society, or State Society, if they would come, and show them that although our Society is young, in its infancy so to speak, yet we are alive, and our latch string hangs out to all brothers and sisters in the grand fraternity of horticulture.

We shall hold our annual winter meeting in Temperance Hall, Lacon, Illinois, on Friday and Saturday, (day and evening), February 8th and 9th. This meeting will be devoted to reports on fruits, vegetables, meteorology, floriculture, etc. Essays will be prepared by several members on subjects pertaining to our institution. These essays will be interspersed with discussions, music and singing. The President requests that all persons interested in this branch of the world's industry, shall be invited to come and attend our meeting, but as this volume will not probably be issued until after the meeting is concluded, the opportunity will be lost, nevertheless we will show our good intentions. The election of officers takes place at the February meeting and the wind-up is a grand oyster supper. We had such short notice that a place would be given us to appear in the transactions or we should have been prepared with a fuller report. Next year if we are again given the opportunity, we shall come before you with something of more interest and will endeavor to make a more connected report, and show you what we are doing in a horticultural line as a Society.

We voted to make the clergymen and their wives honorary members of our Society, and they are taking a deep interest in its success. The Society is not yet a year old and consequently our membership is small, but we are gaining new members constantly,

and ere long we can show a pretty good muster-roll. The monthly meetings at the homes of the members are usually well attended, and after the business is over it is the custom for host and hostess to entertain the Society with a social good time in which we do not lack for the good things in life, a bountiful lap supper being generally provided, or an oyster supper, or some singing and music, etc. We heartily enjoy our privileges as Horticultural Savans(?), especially when it comes to the practical part of it, testing plates of those choice seedlings brother Gaston speaks of, as well as those other equally fine ones our president brings out now and then from the dark recesses of his fruit cellars.

We are all enthusiastic fruit and flower and vegetable lovers—most of us regularly engaged in one or the other of these branches for a living,—are all zealous in the promotion of our Society, and we intend to make a fine showing of our labors by the time we are one year older.

We should have preferred to make a better report this time, and would, if a little longer time had been given us for its preparation; but next year, as we said before, look out for a big report of good work from the Marshall County Horticultural Society.

APPLE GROWING IN MARSHALL COUNTY, ILLINOIS: HAS IT PAID IN THE PAST: WILL IT PAY IN THE FUTURE?

[NOTE.—This Essay was prepared for reading at the February Meeting of the Marshall County Horticultural Society.]

BY A. H. GASTON, LACON.

In the study of political economy, or, the way to become rich and prosperous, is to have something to sell. This will apply to individuals, towns, counties, states or nations.

We can now see the best opening for apple-growing, for money making, of any branch of business that is within the reach of the masses in Marshall County, Ill., or throughout the great Northwest.

Some fifty, or more, years ago, amongst the most prominent apple-growers of Marshall County was John Wier, one mile east of Lacon. On the farm now owned by his son, H. E. Wier, said John Wier planted an extensive orchard of apples. The leading varieties he and other pioneer orchardists planted at that time were the Early Harvest, Maiden's Blush, Rambo, Vandevere Pippin, Yellow Bellflower, Gilpin, Rawles' Janet, Domine and Roman Stem. The Roman Stem proved to be the best paying of the then known winter varieties. Mr. Wier had trees of this variety that often bore the enormous crop of forty bushels per tree of good merchantable fruit, worth from fifty cents to a dollar per bushel. There were several years that he sold as high as five thousand dollars' worth of apples

in one single year. It is self-evident that the pioneer apple-growers in the past made it pay financially.

There were, as time moved onward, several new and valuable varieties introduced, such as Red Astrachan, Duchess of Oldenburg, Fameuse, Wealthy, Ben Davis, Willow Twig, Grimes' Golden, Salome, Stark, and others, generally a great improvement on the original, or first named varieties. In the way of new varieties there seems to be a new era dawning for the future, or coming apple growers of Marshall county and the great Northwest; among which we will name four of the most prominent new seedlings. For summer and fall, Coffman's Favorite; for early winter, Victor; for long keepers, Bullman's Strawberry and the Hennepin. The above named four new varieties are all natives of Marshall and Putnam Counties, with a constitution — or hardy enough — to withstand the rigors of this climate. The size, style and quality of each of these new sorts, is sufficient to bring the highest market prices.

There are thousands of acres of what are known as bluff, or brush land, in Marshall county, and millions of acres throughout the great Northwest, which are among the best apple growing lands of our country, that can be purchased at reasonable rates, and ought to be purchased and planted by lively, enterprising apple growers, to the best of our late approved varieties, and plant the ground to the latest improved kinds of strawberries, so as to get immediate returns before the young orchards come into bearing. We are safe in making the following calculations on an orchard of one hundred trees, set on two acres: In ten years from planting, one hundred bushels at 50 cents per bushel, $50 00; in twenty years, 1,000, at the same price, $500; in forty years, at twenty bushels, 2,000 bushels, worth $1,000. One thousand trees, set on twenty acres, at the same ratio will show the following fabulous results: In ten years from planting, $500; in twenty years, $10,000; in forty years, $20,000, making the land worth from $500 to $1,000 per acre. The above figures look fabulous, however, "figures won't lie." We had better all go into apple apple growing. "There is millions in it." The balance of trade has been against us for a few years past as a nation. We had better grow Hennepin and Bullman Strawberry apple by the millions of bushels, and ship to foreign countries, and turn the balance of trade in our favor, or our great nation may yet become insolvent.

STRAWBERRIES.

BY C. S. ROWLEY, LACON.

As I write, my attention is attracted to a picture lying on the table, of Warfield No. 2. This reminds me that if all is true which is claimed for this variety — and I have no doubt it is — then here at last Illinois has found a bonanza, and so have I, for the Warfield

claims to be just such a berry as I have been long looking for, viz; one that is as productive as Crescent (Warfield No. 2 claims to excel it in productiveness), one that is of good size, good color and, above all, a good shipping berry. Next season we will see how it does here, as Mr. Gaston, of this place, will then have it in bearing, and I intend to watch that variety pretty sharp, for I hope to find my ideal strawberry in it.

I have stood by the Crescent for quite a long time, and it has stood by me. It has never yet failed to bear a splendid crop of berries, on my grounds, and I have made more money from it than from all the many others I have grown put together. I like the grand old Crescent Seedling, and shall stick to it until a worthy successor comes to take its place.

Bubach No. 5 produced a magnificent lot of superior berries last season, and attracted a great amount of interest in that variety. It will be planted quite extensively in this neighborhood next spring, as we have lots of faith in it. Some of us are a little doubtful whether it will prove quite as productive as a good money maker ought to be, but perhaps it will be all right. Jessie did not seem to do very well in the hands of the few who had it here, but from reports from other growers, it appears to have done very well indeed. May King is reported rather soft and unsatisfactory. The Glendale is a favorite variety with me, because it is of very large size, easy to gather and to hull for table use, and the singular characteristic of never rotting soft and mushy as most other sorts do if not picked promptly at maturity. The late Jesse Kilgore, who lived at Henry, Ill., first called my attention to this point, and as I had the Glendale then in fruit, I made a practical test of the matter, taking a friend with me as a witness. We found the old gentleman was correct. To our astonishment, we could not find any soft rotten berries on the Glendale, but found many that had dried up, but were still eatable and hard and firm. The flesh of the Glendale is white and solid, not very juicy and the juice colorless. It is a splendid bearer here, especially after the first year, and a perfect shipper. It sells well,— in fact, is a very easy berry to work up trade on. Windsor Chief is another good variety with us. I esteem it very highly. It bears well, looks well and sells well, so we let well enough alone, and raise Windsor Chief, lots of them, every year. Miner would be a grand, good berry if it was not so hard to get them into market in good shape, but so many hulls come off in picking, the fruit looks old and mussy when off the fruit stems only a short time. Otherwise it is all right.

Cumberland Triumph is a peer in the Fragaria family in my estimation. Its fruit is a model of perfection in uniform shape and size, with all the qualities which a superior table berry can boast of. It bears very large crops here, and the plants are hardy and healthy;

cannot get along without the Cumberland. There are many more very fine varieties which do well in this county, but space does not permit of a more extended review.

Our local growers are turning their attention to raising seedlings of the strawberry, and, at least, two very promising varieties have been produced — one by Mr. McKinney and one by Mr. Reddan. It may be that the time is coming when each particular individual strawberry grower will have to depend on varieties of his own originating in order to raise the very best of fruit adapted to his own situation. The above named gentlemen need not worry, if such should be the case, for they would be entirely safe with their new acquisitions. I would very much like to have more light on two points connected with strawberry culture, to-wit: Is it advisable as good management to cultivate strawberry plants in the spring before and up to the time of ripening? Also, what is the best commercial fertilizer for healthy growth of plants, and fruitage of the strawberry, and how applied, when, and amount per acre?

Not daring to longer trespass upon your indulgence, I will conclude this article by wishing all horticultural brethren may find a better series of fruit seasons in the next decade, than the past has been.

PROCEEDINGS

OF THE

WARSAW HORTICULTURAL SOCIETY

FOR THE YEAR 1888.

REPORTED FOR PUBLICATION BY J. T. JOHNSON, SECRETARY.

Stated Meetings, Third Monday in Each Month.

From the Many Valuable Papers, and Discussions of 1888, the following are Selections.

JANUARY MEETING.

Warsaw, Ill., Jan. 25, 1888.

The Twenty-second Annual Meeting of the Warsaw Horticultural Society convened in their hall, in the City of Warsaw, January 25, 1888.

President H. D. Brown called the meeting to order at 1 o'clock P. M.

Mr. C. C. Hoppe, treasurer, submitted his Annual Report, carefully itemized, showing that the balance on hand, with annual membership fees received, amounted to $68.90, and that the current year's expense — all paid up — was $36.10, leaving a net balance to the Society's credit of $32.80.

ORCHARDS.

Mr. A. C. Hammond — Apple trees have as yet sustained no injury from the extreme cold weather.

Mr. T. F. Leeper — The sleet killed some of the peach buds, and the cold of this month has taken what were left. We shall have no peach crop this year. Sound apple trees are as yet in good condition, and my cherries are all right. I am having to guard against the depredations of the rabbits. Some years the rabbits and field mice do much more damage than others. The orchardist must be vigilant and look to this.

Secretary — Snow and steady cold weather drive these pests to resort to our trees for shelter and feed. We should see to it that no harbors for mice are left about the trunks of our trees.

Mr. Leeper — Orchard land should never be ridged up about the trees. It does the trees no good, is unsightly to the eye of all but the mouse, and it just suits him.

Mr. W. W. Chittenden — Feed your mice better! Have you any corn near them?

Answer — Not this year.

Mr. Hammond — When we have twenty degrees below zero, and more, as we have recently had, the peach bud is destroyed, but the cherry will stand more. We still hope for favorable crops, except the peach.

Mr. Leeper — None of my berry bushes show any injury from the cold.

Mr. J. H. Emerson — I offer for examination a collection of cuttings of the apple, peach, grape, and smaller fruits.

President H. D. Brown — My orchard is in good cultivation, and my orchard trees in good shape, and yet I had no apples in 1887. What is the cause?

Mr. J. T. Johnson — As a rule, all orchards in our vicinity failed in 1887. Entire failures were frequent, and to have any fruit was the exception. This failure cannot be attributed to cultivation or

to the want of it: neither do I think it the result of the previous winter. It was, doubtless, atmospheric disturbance at an unfavorably late period in spring, or, what has become more destructive still, insect pests: as has been abundantly proven by the experiments of Mr. Hammond and others, who have saved their crops by destroying the insects.

Mr. Emerson — My Ben Davis were not well colored. What was the reason?

Answer (by several members) — Your land was probably too dry, as it is evident they were not shaded. Air, light, and an average condition of moisture, promoted by proper cultivation, are prerequisites to the color and flavor of fruits.

Mr. Emerson — What is the best time to gather apples?

Mr. Hammond — As soon as sufficiently ripe, gather at once. It is a good plan to barrel carefully, and store in a cool shelter with proper ventilation, until it is cool enough to go to cellar.

Mr. Leeper — I have experimented much in the production and storing of apples. I am not satisfied as yet with any store-room in use, and shall, during the year, make a new departure in this direction, and hope to be able to make a needed improvement.

BERRIES.

Mr. C. B. Rockwell reported on berries as follows:

The strawberry crop for 1887 was not more than 50 per cent. of the crop of 1886, and the quality was much inferior. I have been testing several varieties; shall place Crescent at 100 and the others as near to them as they have done for me. Sharpless 40; Charles Downing, 60; Cumberland, 70; Miner, 20; Wilson, 65; Black Defiance, 10; Manchester, 75; Longfellow, 25; Warren, 30; Glendale, 40; Red Jacket, 10; Honey Dew, 90; Russells, 40. Mr. W. H. Stewart has rich, sandy land. Sharpless stands at one hundred in my opinion. Shall plant the coming spring, Crescent, Chas. Downing, Sucker State, Glendale and probably Sharpless. The old beds did not make any new plants. As a result, I think they have matured their fruit buds and will yield a good crop for the number of plants. Last spring I planted one and one-half acres of strawberries; the land was good and in fine condition, and I took good care in their cultivation. The result was an almost entire failure; the hot winds of July seemed to burn them up. If I had let a few

weeds grow for protection from the sun, I think they would have done better.

Raspberries — Gregg, Mammoth Cluster and Cuthbert are the varieties I shall plant the coming spring. Shall prepare the land well and plant 4x6 feet and cultivate each way. After trying all plans, have decided that this is the best for me. Raspberries must receive good cultivation to be a success. Mulch is good cultivation. The crop for 1887 was not large. The canes have made a fair growth, but very few plants; they are not injured as yet by the winter.

Snyder Blackberries — Crop light, owing to dry hot weather. Canes in good condition.

Mr. Chittenden — Extremes, either wet or dry, are not good for berries.

Mr. Hoppe — High cultivation is good for them.

Mr. Emerson — I get good results with very little cultivation, only to mulch and trim them; moisture is needed, but proper mulching induces that. I want to compliment the Warsaw Horticultural Society, as to the practical character of its discussions, especially those of recent date. They are of great value to me, and the free and full discussions had is the best medium of information upon horticulture anywhere to be found.

Mr. Hoppe — The intentions of this Society are to give free and full discussion upon all topics pertaining to horticulture, and to receive and to impart information of a practical nature.

Secretary — Its value as a medium of promoting social life with its refining influences cannot be overestimated.

Annual address by the President, H. D. Brown, was now read.

Officers elected for 1888, were:

President — H. D. Brown, Hamilton.
Vice-President — S. S. Gray, Hamilton.
Treasurer — C. C. Hoppe, Warsaw.
Secretary — James T. Johnson.

Committee on Programme for 1888: — C. N. Dennis, C. C. Hoppe, W. W. Chittenden and James T. Johnson.

Adjourned.

APRIL MEETING.

The April meeting, held in Horticultural Hall on the 18th, was but lightly attended, a consequence of the very busy season of the year. C. N. Dennis, president *pro tem.*, occupied the chair.

C. C. Hoppe — The cabbage moth has been noted in limited numbers.

C. N. Dennis—The codling moth has made its appearance from the apple cellar. [Sec.—As there was little in the way of fruit on which the late crop of larvæ could subsist, we hope that the first first crop of moths of 1888 will be small in our vicinity.] Gardening is well under way, and the scarcity of the old crop has given a great impetus to our gardeners.

C. B. Rockwell — Care is being manifested in the most improved methods of culture, and in the most careful selection of seeds.

C. C. Hoppe — The season has been a little late, rather cool for progress; yet we have many plants looking well (a result of management and skill in business). Our lettuce, sown last fall, is doing remarkably well.

J. F. Spitze — We want early and good gardens. They are indispensible to the welfare of the family. We must not wait for the merchant to import our vegetables, no matter how cheap he can do so. We must grow our home supply. They are fresh and more wholesome.

T. F. Leeper — Apple trees suffered but little from the winter; occasionally a bark burst. The growth of wood for 1887 was very fair for so much drouth. A full crop of apple bloom is now in prospect. One of my orchards (much exposed to the east wind) was nearly ruined by the ice and sleet of March 25th. Another, well protected from the wind, was but little injured by the ice. The weight of this sleet was never excelled in my own recollection. I hope for a fair crop of apples.

Mr. Carter — Peaches do not show a single live-bud, and all weak trees fell under the weight of sleet.

SMALL FRUITS.

C. B. Rockwell — Strawberry plantations, for the most part, are looking unfavorably. They have suffered from drouth, cold and insects. There will be some berries raised and many new plantations made. Red raspberries were not very much injured by the winter, but they made a poor growth in 1887. Black cap varieties are worse off than red. The Snyder blackberry is in good condition and promises a good crop.

The question of spraying to destroy insect pests was taken up, and A. C. Hammond said: I use London purple for this purpose, in proportion of one pound to 120 gallons of water. Use a hand spraying pump, from a barrel of the mixture driven through the orchard rows in a wagon, one man driving and one using the pump. We apply first, soon after the bloom drops, when the apple is less than a pea. We go over the work a second time in a week or ten days. This will destroy the first brood. Probably the apple orchard will need nothing further; yet there are later broods of moth, and further experience will tell us as to the importance of combating them.

Specimens of Missouri Pippin presented showed them in the light of a fine apple. They are worthy of further trial at Warsaw.

JUNE MEETING.

A joint meeting with the Ladies' Floral Societies of Hancock county, was held at Hamilton, June 20, 1888.

Fine roads and delightful weather gave us a large attendance, and a most excellent and profitable meeting, the social and intellectual value of which was highly appreciated.

We are very sorry that we are unable to give the exact words and sentiments with which Rev. J. W. Marshall, of Wythe, invoked the divine blessing at the opening exercise. The hall decorations were not so elaborate as on a former occasion, but were very tasteful and highly appropriate. The music, both vocal and instrumental, was grand, and the audience was appreciative, and merited applause greeted the many appropriate and pertinent papers of the meeting.

The songs and duets by the young ladies of Hamilton were rendered with excellent skill, and highly complimented, and the city of Hamilton is justly proud of such daughters as the Misses Githens, Moore, Grubb and Arnold.

At the forenoon session, Mrs. K. S. Garretson, of Warsaw Floral Society, entertained the audience with an interesting paper on floriculture.

Carthage Floral Guild was ably represented in a paper by Mrs. Duane Pennock, brim full of information for the amateur florist. It was read by Mrs. C. E. Johnston, of Warsaw.

A verbal report, by Mrs. H. D. Brown, gave us a satisfactory account of the condition and prospects of the flower garden.

At noon a recess was taken, and the grand lunch, prepared by the ladies of the Montebello Floral Society, was enjoyed in the adjoining room. These ladies know how to prepare and serve lunch.

In the afternoon the exercises were opened by a beautiful anthem, rendered by the choirs of the Congregational and Presbyterian churches, of Hamilton, and the popular pastor, Rev. J. Hartley, invoked the divine blessing.

The paper, "Work and Play," by Will K. Githens, was one of the best written and best rendered of the occasion, full of merit and entertainment.

"Outdoor Employment for Woman," was a select paper by Mrs. C. E. Johnston, of Warsaw, and this was followed by the recitation, "Two Years Ago and Now," by Mrs. J. W. Ritchie, of Warsaw, an original poem, appreciated by all who heard it. As an elocutionist Mrs. Ritchie is seldom equalled.

W. H. Lamonte read a paper, "The Successful Man," and in his happiest mood your correspondent tendered the thanks of the Warsaw Horticultural Society to the many who had contributed to make this one of the most enjoyable and valuable meetings of the Society.

Mrs. J. W. Chapman, of Elvaston, exhibited a very large and perfect lemon, being one of eleven such specimens taken from a tree in her conservatory this season. The tree is seven years old.

REPORT ON FLORICULTURE.

BY MRS. K. S. GARRETSON, WARSAW.

When requested to prepare this report, could I have declined honorably, or found some one willing to take my place, you would not be imposed upon by myself today, and yet if being a dear lover of flowers is deemed a sufficient excuse I suppose that I should be willing to perform my allotted duty, being content with a mere outline, leaving the filling in to those of more practical experience. It is indeed very gratifying to see how interested we all are in the slipping, potting, lifting or repotting of these beautiful offerings of nature, our window and house plants, being particularly anxious to screen them from the first cold wave of autumn, lest our precious pets should receive damage.

For winter blooming, the chrysanthemum is one of the first to bloom in profusion, and I can not think of any plant that requires so little care, yet gladdens our eyes with such a beautiful and lasting variety of flowers. As their name implies they are the "Christmas Flower." They are easily propagated from cuttings taken in August, or from shoots sent up from the roots after blooming, they are hardy, except in the extreme north, and grow vigorously in any light, rich soil. When their last blossom is gone, stow them away down the cellar to rest until they tell us themselves they want light and sunshine. Many other plants may be wintered in this way, but we do not feel quite so sure of their awakening when the springtime comes.

The geraniums, gladiolus, dahlias, verbenas, lemon, oleander, e may survive the winter in the cellar and come out green and beautiful, even exceeding our expectations, while another time we bring them up stairs only to throw them away. Generally speaking our plants and flowers have done satisfactory during the past year. We have been able at all seasons to gather flowers to crown the happy bride, or to make a floral offering of love and sympathy to leave at the house of mourning.

The season has favored the planting of seeds, slips or bedding plants. Roses started well but slugs are numerous, and slacked-lime is in demand to destroy them; the bushes do not look so well as their sweet flowers.

The coleus are doing well, and will give us an endless variety of colors, taking their proper rank among the variegated plants.

Begonias are justly remarkable for the diversity of their markings, their rich crimson edgings and stems, their thrifty growth and easy culture. The most fastidious floriculturist can here find a plant to please and satisfy.

Carnations are a lovely plant, and, in beauty and fragrance,

justly rank next to the rose. You can propagate them by seed, layers or cuttings. The best time to layer is when the plant is in full bloom.

Pansies are great favorites, and will grow in shady nooks, where no other plant will bloom. Their flowers continue from earliest spring until latest autumn. They bloom first year from seed. Small plants produce the finest bloom.

Sweet violets are, to me, peculiarly beautiful, yet my success has not been very encouraging with them; possibly I am over zealous, and watch them too closely, they are beauteous sisters to the pansy. In their rarely delicious odor, they possess a high attribute, their perfume is unsurpassed by that of any other flower, they are always in demand and usually easily grown, and with protection will flourish in the coldest climate.

Among bedding plants the heliotrope fills an important place, giving us a plenteous bloom from June to October. They are a native of Peru and were introduced into England in 1757, and the English cottagers called it "cherry pie," from a fancied resemblance in fragrance. The older plants have the more profuse clusters of bloom. It grows well in turfy loam, and is easily raised from cuttings.

Petunias are half hardy perennials, and desirable for the smallest plots of ground; both single and double varieties grow luxuriantly, and flower profusely. Pot the cuttings in June or July and in good rich earth, we can have bloom all winter.

Nasturtiums, are very desirable for both garden and house, they require very little care and amply reward us with a lovely and varied array of flowers.

There are few prettier plants for hanging baskets than the smilax. It requires rich soil made light with sand and moisture at the roots, but care must be had to not over-water it; it is one of the plants which the red spider love to live upon. You discover your smilax drooping when these pests are about and should wash thoroughly both foliage and roots to destroy them, and then repot in fresh, clean earth.

The widely advertised and popular plant, "Moon-flower," has not proven satisfactory, perhaps our climate is not favorable to its growth, or maybe it is one of those plants that grows and blossoms best in the catalogues. It is said to be similar to the common, though handsome, morning-glory.

The much-lauded "fragrant cinnamon vine" is of slow growth, easily killed, and for covering a trellis or shading a sunny window, cannot be compared with the substantial maderia vine. The clematis, the honey-suckle and the passion vine are each so graceful and affectionate in their habits, I wish we could preserve more of them through our severe cold winters. In the South we find them in

swampy, marshy localities, where they grow to enormous proportions, full of large trusses of purple, white and variegated flowers.

The fuchsia is a most gracefully beautiful flower; I have in mind a plant only about one year old that held upon its branches a hundred perfect flowers, and that on a January day, when the snow was over a foot deep out of doors. Could you imagine a more attractive window than the one which exhibited this. They grow from slips rapidly, when good soil and plenty of sunlight is furnished for them.

Palms require a deep pot, but are easily grown in rich, loamy soil, with plenty of water. We must carefully watch them or the scale will take possession of them.

Verbenas now find a place in almost every garden, and rank with the first among brilliant flowers. They are natives of Brazil and love the hot sun and sand. A copious supply of suds on washing day is very beneficial to the verbena. Cuttings taken in August will become well rooted for winter.

"The lily of the valley" must not be forgotten. She hangs her pearly head like so many fragrant censers, and is ever welcome and ever lovely. Her sweet flowers require no care; they love the shade and flourish in the out-of-the-way corners, if the soil be moist and rich; are perfectly hardy, requiring no protection in the coldest winter.

While lavishing so much care and praise on the choice, popular modern plants, we would not forget our old-fashioned and time-honored flowers, the balsams, four-o'clocks, marigolds, poppies, sweet pinks, and lark-spurs that still deserve a place in our affections; and gardens, such as were grown to perfection by our dear, old grandmothers. All over this beautiful green earth of ours, a kind Father has made things for our especial benefit and pleasure. When we ride in the woods — Nature's park — we see rare and beautiful flowers upon every hand. They require no slipping, laying or repotting; we pass along, filled with admiration and wonder and awe, as the scene stretches out before us, on down to the babbling brooklet's side, and there we find a flower, tinged deeply with faith's unchanging hue, pure as the ether in its bower of loveliest, serenest blue:

The streamlet's gentle side it seeks,
The quiet fount, the shaded grot;
And sweetly to the heart it speaks,
Forget me not; forget me not.

FLORICULTURE.

BY MRS. DUANE PENNOCK, CARTHAGE.

Floriculture is a word, which is next in importance to horticulture; the latter takes in fruits and vegetables, while floriculture covers and takes in the industry of cultivating flowers, of which there are a countless variety. And flowers always deck the face of mother earth before the fruit comes. Floriculture is not only a pleasure, but is made a business by some, whereby a living is made, and it pays in some places, better than the cultivation of vegetables, or even fruits, depending a great deal, of course upon the situation, and the experience of the florist. We have been asked to give a report on floriculture from our part of the county. We willingly comply and will try to do justice to the subject. But, from its vastness we have little hope of doing so.

The floral kingdom is now in its beauty, Old Boreas having departed and left "Queen Flora" and her subjects to revel in the warmth of summer. Plants and flowers generally stood the winter just past very well, some (as is usually the case), were frozen, on the very severe nights. And late in the season when Jack Frost was supposed to have lost some of his power, he returned and took some of the choicest plants, thereby bringing grief to more than one ameteur florist. Geraniums, our "standby" for all the year round, are gaining fast what they lost during the cold, wet spring. Several of our ladies being deceived by the warm days early in April set their geraniums out in beds, and a sudden return of cold weather injured them for the time.

Roses — the delight of all hearts,— we are sorry to say, are troubled with "the slug;" but by thoughtful care and close watching and picking, which seems to be the only means of eradicating this evil, we have some very choice roses. Generally speaking, there has been more trouble with annuals this year than usual, it being difficult to make the seeds sprout, caused, we suppose, by the cold, wet weather. Perennials are doing very well, and they are nearly always sure to come to our aid when annuals fail us.

All vines and running plants seem to outdo themselves, and appear to be running a race with each other; and what is more delightful to the eye than a mass of beautiful, delicate, green vines.

Tulips never looked better than this spring, the blooms were of great beauty and rich profusion. In fact, as far as we can learn, all bulbs have done, and are doing, well. Oleanders, pomegranates, achania, and other hard wood plants, are in a healthy condition, and promise a profusion of bloom in due time.

The care of plants is a great one, but how well we feel repaid when we gather the flowers by the handful, and enjoy their beauty and fragrance.

TWO YEARS AGO AND NOW—AN ORIGINAL POEM.

RECITED BY MRS. J. W. RICHIE, WARSAW.

'Twas two years ago, no doubt you all remember;
In this very hall, that seemed rather small,
For the many who attended;
Was held the meeting, just as now,
With the same body assembled.

The Monte-bello ladies had dressed up the stage;
'Till it looked much like a garden,
And a huge cart wheel, with its oak leaves, real;
There were flowers of every relation,
And there, back of them all,
They had hung on the wall,
That old flag, so dear to our nation.

You kindly gave Warsaw a place in your midst;
By special invitation,
And we came up from there, to attend your fair,
And bring out our little collection,
We were treated so well,
That right here we must tell,
You drove away fear and dejection.

Professor Burrill was here from Champaign you remember,
With his blackboard and chalk,
And his very plain talk,
Of the apple; he wonders disclosed;
Of that fruit round and red,
How much may be said,
Much more than we ever supposed.

We saw fruits and flowers and vegetables,
Of such very good kind,
That we made up our mind,
That the Horticultural Society,
Knew enough about farming and raising of fruit,
To bring them in great notoriety.

As each speaker arose,
We wondered what he might disclose,
While a man at the table, with bottles each labelled,
Who told us of insects and pests,
But claimed with his bellows and compound at hand;
A good riddance and he'd give us fair tests.

Ah, such knowledge as we had expounded;
It made us believe,
That these men could achieve,
With farming on such a foundation;
Such raising of grain and all vegetable kind,
As would surely astonish the nation.

It suggested to my mind a new train of thought;
What knowledge of a farm,
Had I—a school-marm;
I'll tell you if you'll give attention,
I did'nt plow fields, nor I did'nt milk cows,
Of these I'll make little mention.

'Twas in time of a summer vacation;
When we hunt up our county relation,
I'm no exception, ah no, not I,
So to the city, I bade good bye,
And was off to the farm for recreation.

I found it a most delightful change;
From the noise and din,
And those youngsters of sin,
Who seem like perpetual motion;
So I turned to green fields and flowers and trees,
With a feeling akin to devotion.

What a change in the diet, from the boarding house table;
Pure milk, undisputed,
This was not diluted,
And had what I called butter, there;
Cottage cheese, who could beat it,
In town I could'nt eat it,
To change its name would be fair.

Butter milk, eggs, fruit and watermelons huge;
I enjoyed all this,
In this season of bliss;
Early rising without any harming,
I gained twenty pound,
And my sleep it was sound,
And that's "what I know about farming."

AUGUST MEETING.

The August meeting of the Society was held at the residence of T. F. Leeper, Lima, Adams county, on the 9th.

ORCHARD REPORT.

BY T. F. LEEPER, LIMA.

John Bunyan was the opposite of a mystic, his sermons were common sense, closely packed. They exhibit the closest observation of the ways of human nature in practical life. His history of "Mr. Badman" is more true to contemporary life than even the adventures of "Jonathan Wild," though written a century later. It has been said that Bunyan never weakened his eyesight over books, yet he sharpened his sense of observation of the human family. All of his volumes abound with incidents evidently observed upon the streets of his native town, or upon the wayside of real life. And not the least agreeable of these things are his terse descriptions of the country, the fields, the flowers and the birds, and the simple cheerfulness with which he imparts the information which adorn the pages of his earlier works. So, in like manner, in his greatest

work he unites, in a perfectly natural way and with evident forethought, "a journey on earth with that of a search for heaven."

Some people thought that Bunyan was crazy, but it was only the fusing of truth with fancy, in order to make it potent. There are many firm believers in the theory that people are, at times, crazy —fanatic, and facts are often cited in the support of this belief; but a wise man may step backward off a porch, or into a mud-puddle; a great philosopher may hunt for the spectacles which are in his hand, or upon his nose, and the hunter may shoot himself or his dog, and yet not be crazy.

A working girl, so industrious and faithful, that for ten years she had been constantly employed to feed a clothes-knife, one day watched that same knife come slowly down upon her own hand. Too late she awoke from her train of thought to find her hand gone.

One of our most distinguished philosophers teaches in an institution near a canal. Walking along the path one morning, absorbed in thought, he walked deliberately into the canal, and was only brought to his senses by the water and mud, and by the absurdity of the situation.

Again, our mail collectors, it is said, find in the iron boxes along the streets all sorts of papers, and many times the most unlikely articles, which have been put there by some hand from whose motion the mind had become, for the moment, detached. A deed, a mortgage, a theatre ticket, a glove, the spectacle cases go into the box, and the letter, meanwhile, remaining in the pocket of the writer.

This brief lunacy, or absent-mindedness, only proves that the individual is a deep thinker, and perchance, a specialist; and this, gentlemen, is just what leads to success in our pursuits of life; and if great men make these mistakes, I trust you will excuse me, and one another, for occasional mistakes in horticulture.

In the year 1860, I began the orchard business. I entered into it with an energy and determination to succeed. I planted seventy-five trees with twenty-five different varieties of apples, and for the greatest display by one producer, can defy competition. The same year I started a nursery of seedling peaches, growing one year from the pitts, and the next year, 1861, planting my first peach orchard of 350 trees. They proved a very profitable investment. In 1867, I planted 400 apple trees — all winter varieties — of which Ben Davis predominated. The next spring, 1868, I interplanted three peach trees to each apple tree, or 1,200 peach trees. They all came into bearing young, and for some years proved highly remunerative, but I lived to see them nearly all destroyed, not with age, but from several causes — overbearing, atmospheric troubles and insect pests. Since then I have planted four other apple orchards and one peach orchard. The whole number of trees planted, I cannot give, as I am, of late years, constantly replanting my orchards.

In my young orchard there are to-day 1,300 apple and 1,200 peach trees living. I have a fine crop of apples, but no peaches for several years. In the cultivation of my orchard I am governed some by soil and location. My land is much diversified in situation, and soil. The most radical mistakes made by the orchardist, is in supposing that fruit growing can, or ought to pay large profits, without corresponding care, labor and skill or the part of the owner and grower. And yet to grow our fruits without labor or care is neither right or profitable, in fact our business would not be worth pursuing. If fruit cost nothing, then like the water and air, it would bring nothing. No! it is because it costs something that it can be made profitable to those who have the skill and energy to make it cost them less to produce it than it does others. Once it was supposed that fruit would grow under almost any circumstances. Now we know that only skill and energy in the management can make the orchard even moderately profitable. And we believe that fruit growing is more hopeful than when little or no care was required. This apparent misfortune is in reality our gain, if we but rightly comprehend it, and if our specialty has ceased to be so easily produced, and now requires more labor, and greater skill, it insures us better markets and larger profits for the orchard lands. I shall continue to try to grow fruit, anticipating in the future as great profits as I have ever realized in the past.

A very pleasant ramble over the farm showed a well-kept orchard, loaded with fine apples; in many instances the limbs of the trees were supported by props to prevent breaking. A walk in another direction led to the Indian Mound, from which a fine view was had of that famous resort of hunters, Lima Lake.

At noon, Mr. Leeper called the guests to a sumptuous dinner, to which it is needless to say all did justice. After dinner the usual routine of the meeting came, but as sociability was the order of the day, the meeting was soon adjourned. Late in the afternoon we bade our hospitable host and hostess adieu. It was a rare treat and one long to be remembered by all present.

SEPTEMBER MEETING.

The monthly meeting was called to order by the Vice-President, S. S. Gray, at the residence of A. C. Hammond, Esq., Wednesday, September 26. Mr. Hammond has a magnificent fruit farm upon the edge of Green Plains prairie, the timber region of the Mississippi

river bluffs, lying west and north of it; the lands slope gently eastward. Here Mr. Hammond has been planting and improving for a third of a century, and while he has met with some failures and very many disappointments, he has been one of our most successful horticulturists, and his fruits, ciders, vinegars, etc., have a wide reputation. His plantations of trees have reached up into the thousands of apple, cherry, peach and pear, besides an unlimited number of almost every variety of the smaller fruits, most of which are as successfully grown here as at any point in the United States, but many of which have been practically discarded for the want of markets and market facilities. At present Mr. Hammond is devoting most of his attention to the apple, and its products, and to general farming. But when markets or transportation facilities will justify, Mr. Hammond and his neighbors will be able to furnish as fine berries and other small fruits as any other portion of the country.

A recess was taken in a stroll over this model farm and in viewing the different plantations —"the old family orchard," "the large commercial orchard," and the more general variety, or "experimental orchard," in which many hundreds of varieties have been, and are still being tested. Here the practical horticulturists receive a most valuable "object" lesson which no interested fruit grower could afford to miss.

The commodious dwelling of Mr. Hammond is centrally and very conveniently situated, and the surroundings are handsomely and tastefully improved with intermingling trees, plants, and flowers.

At 12 o'clock M. our hostess and lady friends served the entire audience with an excellent lunch, which was enjoyed by all present, and Mr. and Mrs. Hammond were unanimously voted "royal entertainers."

Reports and discussions were had as follows:

Mrs. G. J. Rogers — The Warsaw Ladies' Floral Society is now in a flourishing condition; effective work is being done, its influence is being felt, and is of practical value.

C. C. Hoppe — On the whole the vegetable gardener cannot complain. Our markets are supplied with good and wholesome products. True, the weather has been unfavorable at times, but prompt and intelligent work has given us fair rewards.

T. F. Leeper — The orchard crop began with a very profuse bloom, followed by a heavy setting of fruit, and during June and July there was necessarily a wonderful falling of fruit. This was a natural result of the oversetting. My apples are now ripening and coloring beautifully. The quantity and quality are both satisfactory, but as yet the prices are to low for profit.

Thos. Gregg — My own orchard (with many others) is decaying. We must replant, or plant anew. What shall we plant for family use? Say three varieties each, of apples — summer, fall and winter.

Mr. Leeper named Red Astrachan, Summer Pearmain, Early Harvest, Maiden's Blush, Rambo, Milan, Ben Davis, Willow and Jonathan.

A. C. Hammond gave Duchesse, Red Astrachan, Sops of Wine, Wealthy, Maiden's Blush, Porter, Ben Davis, Willow, Jonathan.

J. T. Johnson — Substitute Benoni for Porter and Grimes' Golden for Willow, and I like the list better.

Questions by H. D. Brown — Do you advise picking Wine Sap and Ben Davis first week in October for winter keeping? Do you put winter apples in cellar immediately after picking?

T. F. Leeper — Never pick before October for winter keeping; do not put apples in cellar, and especially in bulk, until later. If bulked too early they heat. If left outside after picking, you must protect from the weather — especially rain. Apples keep best if not bulked — that is you can keep most successfully in boxes or packages.

Mr. Hammond — The sooner you pick, after they are ripe, the better they will keep. My early pickings keep longest. They do keep well in boxes, but too much air, or too much light, is injurious.

J. H. Emerson said a word in praise of the local apple, the Montebello. I planted them twelve years ago; the tree is a good grower, is upright and handsome; the fruit clusters all along its branches; they are fine in appearance, best in quality, and profuse in bearing. They begin to ripen with September, but their season runs into early winter. Every family should have the Montebello.

Question by President Gray — As to the best mode of making apple-butter?

Mrs. Hammond — I use cider boiled to one-fourth; use good apples, well stewed and carefully rubbed through a sieve, freeing the fruit from seeds, cores, etc.; add sugar to suit the taste. Constant care is required in the cooking.

C. C. Hoppe — I use a few lemons and not quite so much cider, and to keep, put in earthen or stone jars, and cover with cloths wet in salicylic acid; over this I place cotton batting; it will keep it perfectly.

J. C. Berry — Put your kettle flat on the ground when you cook apple-butter. The fire should never touch the bottom, but heat only the side of the kettle. You will not only obviate burning or scorching of fruit, but will actually cook three times faster than the old way. Try it.

OCTOBER MEETING.

The October meeting was held at the residence of J. H. Emerson, in Montebello, and was well attended.

The orchard having an especial interest, we visited it. Mr. Emerson's manner of tree planting is novel and a new departure. He took a two-horse plow, and opened a furrow each way, forty feet apart, and with sub-soil plow deepened these checks a second furrow. At the bottom of this holes were dug, and the trees planted to the depth they grew in the nursery; after which the soil was plowed back to the trunks of the trees, to the depth of ten or twelve inches above the natural tree growth. This orchard has never needed replanting, is now seven years old, has borne three full crops of fine fruit, and is to-day one of the thriftiest, healthiest orchards in the State. On Mr. Emerson's location this has been a success, and is well worth the consideration of the tree planter.

Answering a question of B. F. Hambleton, on pruning,

Mr. Emerson said — No marks from pruning are ever visible upon my trees. I prune only in the growing season of spring. The wounds heal at once. I never cut a large limb, promptness makes it unnecessary. To cut a large limb is to cripple your tree for life.

My trees are well cared for, and they have nicely balanced heads, with side branches properly distributed along a good, strong center stalk. Thus trained they never split at the crotches.

At noon the generous hospitalities of the mansion were liberally dispensed to all visitors.

Mr. C. C. Hoppe — Cabbage should remain standing until freezing weather. They grow and keep better. Just before freezing, cut the heads from the stalks, and pack them in an old, cheap barrel, with one head out. Lay the barrel on its side, and bury with dirt. The cabbage keep well, and are always accessible for use.

Mr. S. S. Gray — Salsify needs no winter protection. Leave it standing where it grew, and dig only when wanted for use. Parsnips need the same treatment.

Mr. Hoppe — I like my supply of lettuce all the year round, and find that I can have it if I plant properly for the succession. I have already planted seed grown in 1888.

Mr. Gray — I sow salt with my onion seed. It induces the needed moisture, and the seeds germinate quicker and more surely. It also destroys many kinds of weeds.

Mr. Emerson — I empty my meat brine upon my asparagus beds with evident advantage.

Mr. Gray — I appreciate a good garden,— an early one with a succession ; one that will be a solid comfort all the year round.

After discussing a fine exhibition of fruits, the Society adjourned.

ANNUAL MEETING — DECEMBER.

The Annual Meeting of the Warsaw Horticultural Society was held at Warsaw, Saturday, December 1, 1888.

In the absence of the Secretary, President Brown appointed S. S. Gray, Secretary *pro tem.*

C. C. Hoppe, Treasurer, submitted his annual report, showing healthy increase in membership, and a balance of cash on hand of $37.80 after paying all demands of 1888.

A discussion on entomology favored the burning, in the spring-time, of all stubble and weed fields.

Report on vegetables indicated a very full and fine crop. Onions, though a good crop, have rotted badly.

Reports on orchards show a fair crop of apples, with a moderate supply of plums and pears. The trees have made better and healthier growth than last year, and go into winter in favorable condition. The per cent. of this year's crop still in the hands of the producers is very small; say 5 per cent.

Messrs. Leeper and J. T. Johnson have their crops in apple-houses. They are keeping fairly well. The temperature of these apple-houses is below forty degrees.

A question by C. B. Rockwell: If now only twenty-five years old, how many would plant an orchard for commercial purposes?

A. C. Hammond and two or three others answered: Yes; we would still plant.

Mr. Rockwell — Then, what would you plant?

Mr. Hammond — Ben Davis principally, unless I found something of more profit.

Mr. Rockwell — Will the demand justify the effort?

Mr. Hammond — Yes; always. There are just now many new, and some promising varieties of apples being tested.

J. T. Johnson — Horticulture is an actual necessity and demands the very greatest efforts of which we are capable.

REPORT ON BERRIES.

C. B. Rockwell — I have added a thousand Sucker State strawberries to my new plantations in 1888. They have grown almost as luxuriantly as my Crescents.

Mr. Emerson — I have one of the most thrifty growths of strawberry vines to be seen anywhere. The foliage is so dense that there seems no necessity for a mulch for winter protection.

C. C. Hoppe — What shall we do about the birds? Last year they began with my strawberries, and in turn attacked every kind of berry or cherry I produced.

The question was not satisfactorily answered.

The President's annual address, by H. D. Brown, was read and ordered printed with our proceedings.

After much deliberation upon the subject, the election of officers for 1889 resulted as follows:

President — H. D. Brown, Hamilton.
Vice-President — S. S. Gray, Oakwood.
Treasurer — C. C. Hoppe, Warsaw.
Secretary — J. T. Johnson, Warsaw.

On motion of C. B. Rockwell, H. D. Brown was appointed committee on programme for 1889, with privilege to ask assistance in the work.

Adjourned.

ANNUAL ADDRESS.

BY PRESIDENT H. D. BROWN.

Ladies and Gentlemen, Members of the Warsaw Horticultural Society:

Horticulturists can congratulate themselves on the season just closed as being one of fruitfulness and profit, and we may well say, it was time, for there is no disguising the fact that those depending on fruit raising for a livlihood, had, to a large extent, become discouraged and could not have kept up the interest any longer in orcharding if they had not had a change for the better in a fruitful season like 1888. And it is with pleasure that I congratulate you on the bountiful crop of fair beautiful apples, the "king of fruits."

As we look back over the past year we note with sadness that death has taken one of our most esteemed members, a gentleman whose kindly face will be missed from these meetings, and we all feel the loss of his kind words and friendly greeting; I refer to Capt. W. S. Hathaway.

While not so dear to us, but of great loss to horticulture, we chronicle the death of Milo Barnard, President of the State Horticultural Society. While I had not the pleasure of the acquaintance of Mr. Barnard, I was convinced that he was a gentleman of sterling qualities and will be sadly missed from his own neighborhood and the state at large, and it seems to me it would be better for us to give more than a passing notice to those gone before, not forgetting that we must keep up our ranks with recruits of younger persons, as the cause of horticulture will advance long after we are all gone and

the younger members must take up the work, not after we have laid it down, but now, when the older heads are here to council; and I do hope every one will make it a point to instruct the young in horticulture and the adornment of homes. For the home is the bulwark of our liberties as a nation.

The lessons in horticulture of the past season are a series of surprises, old established theories have been overturned and it seems as if we will have to commence anew in orcharding. At least this is my experience. Orchards from which I expected the least did the best; those on which I expended the most labor did the worst, especially is this true of cultivating and spraying. Orchard trees in meadows not sprayed, did the best, while those sprayed and cultivated did not bear as well and the fruit was not as perfect. What to do and when to do it seems to be a question as unsettled as ever. The only thing I can see is for horticulturists to keep on experimenting, as persistent effort is sure to have its reward.

As this meeting will close our season's work, I would suggest to the members the advisability of having out our yearly programme as soon as possible, so it can be distributed during the holidays. The time is a good one for increasing our membership at the farmer's meetings and other gatherings to be held this month.

Closing this season of our work, I thank you all for kind words of encouragement and your assistance in presiding at your deliberations.

MEETING OF THE EXECUTIVE BOARD

OF THE

ILLINOIS STATE HORTICULTURAL SOCIETY.

DECEMBER MEETING.

ALTON, December 12th, 1888.

The Executive Board of the State Horticultural Society convened in the Hotel Madison. Present: H. M. Dunlap, Arthur Bryant, F. I. Mann, E. A. Riehl, C. N. Dennis, and A. C. Hammond.

On motion of E. A. Riehl, the reports of the Secretary and Treasurer were referred to a committee. President Dunlap named, Arthur Bryant and F. I. Mann, as the committee.

The question of the time of the next annual meeting, which had been referred to the Board for action, was now taken up, and after a full discussion, it was on motion, ordered that the next meeting be held at the same time as the present one. The second Tuesday in December.

The Committee on Secretary's and Treasurer's report, reported that they had carefully examined them, and found them correct.

The question of awarding the contract for printing the next volume of Transactions was now taken up. The Secretary read the bids received from five publishing houses. After carefully discussing the merits of each, it was decided to accept that of J. W. Franks & Sons, as being, all things considered, the most desirable.

On motion of Mr. Riehl a special premium of two dollars was awarded John Kramer for best display of celery.

On motion of Mr. Browne, the hotel bill of Col. G. B. Brackett was ordered paid.

The following bills were allowed and ordered paid:

J. S. Browne, expense of board meeting and cash advanced	$ 13.80
Arthur Bryant, expense of board meeting	15.75
C. N. Dennis, expense of board meeting and *ad-interim* work	22.51
H. M. Dunlap, expense of board meeting	10.70
F. I. Mann, expense of board meeting	11.83
E. A. Riehl, expense of board meeting,	6.40
J. T. Johnson, reporting annual meeting	20.00
Bessie M. Nash, reporting annual meeting	20.00
A. C. Hammond, expense of board meeting and cash advanced	16.10
J. S. Browne, expense *ad-interim* work	17.77
J. S. Browne, hotel bill Col. Brackett	7.75

H. M. DUNLAP, *President.*

A. C. HAMMOND, *Secretary.*

JANUARY MEETING.

SPRINGFIELD, January 15th, 1889.

The Executive Board of the State of Horticultural Society convened in the State House, with the following members present: President, H. M. Dunlap; Secretary. A. C. Hammond; Arthur Bryant, A. Dunning, C. N. Dennis, F. I. Mann, Wm. Jackson, and J. S. Browne.

Mr. Bryant moved that we ask the legislature to grant us an annual appropriation of $4,000 to enable us to print a larger number of reports and other necessary work of the Society. Motion adopted.

Mr. Dennis moved that a committee of three be appointed to confer with Gov. Fifer and Superintendent Edwards in regard to the proper date for Arbor Day. Motion adopted, and Messrs. Dennis, Browne and Bryant were appointed.

Mr. Bryant moved that a committee of three be appointed to examined the papers read at the Forestry Convention, and report as to the propriety of publishing them in our volume of Transactions. Motion adopted, and Messrs. Bryant, Mann and Browne were appointed.

Mr. Dunning moved that we suggest April 19th as the most suitable date for Arbor Day. Motion carried.

Mr. Bryant moved that the secretary be instructed to correspond with the owners of the desirable new varieties exhibited at the Alton meeting, and procure scions of as many as possible for trial in different portions of the State; and that the president and secretary be authorized to draw an order on the treasurer for payment of the expenses incurred. Carried.

On motion, a committee consisting of Messrs. Dunning, Dennis and Browne was appointed to select parties in different parts of the State, to whom scions should be sent for testing.

On motion the Board proceeded to select a list of trees for lawn, school-yard and roadside planting.

(See list of trees, page XVI.)

On motion, the secretary was instructed to issue Arbor Day circulars, urging the importance of observing the day in a proper manner, and giving the list of trees recommended by this Society, and to send a copy to every paper in the State, and ten copies to each County Superintendent of Schools.

On motion it was ordered that premiums to the amount of $300 be offered for a display of horticultural products at the next annual meeting.

On motion, the question of revising the premium list was now taken up, and the secretary instructed to use the word "from" instead of "for" in the list. (See Premium List, page XI.)

On motion, ordered that the appropriation of $50 to the three District Societies be continued on the same terms as heretofore.

After considerable discussion, it was ordered that the Awarding Committees shall consist of one person each, who shall be an expert.

SPRINGFIELD, Jan. 16th, 1889.

The Board convened at the Revere House with all the members present.

On motion, it was ordered that the *ad-interim* work be placed in the hands of the Presidents and Vice-Presidents of the District

Societies, with instructions to do the work themselves, or to employ, from time to time, other competent persons, as may seem best. The amount expended to be limited to $100 in each district.

The Treasurer presented his bond for the year 1889, which, on motion, was approved.

The Board now proceeded to revise the list of standing committees. (See List of Standing Commiltees, page v.)

On motion, it was ordered that the lists of fruits, vegetables, trees and shrubs recommended by this Society be published in a conspicuous place in the first pages of the book.

On motion, it was ordered that a list of pears — five varieties — be recommended for general cultivation. (See List of Pears, page xv.)

The Committee to select suitable men to test the new varieties of apples, reported as follows:

Mr. President: Your committee respectfully recommends that the scions to be procured by the secretary be distributed among the following persons for testing, with the understanding that they will report the result to this Society, and that the scions will not be disposed of, or propagated from:

Northern Illinois — C. W. Prescott, Marengo; J. V. Cotta, Nursery; Arthur Bryant, Princeton.

Central Illinois — A. C. Hammond, Warsaw; F. I. Mann, Gilman; H. M. Dunlap, Savoy.

Southern Illinois — J. Webster, Centralia; J. G. Vaughan, Odin; J. S. Browne, Alton.

On motion, the report was so amended as to allow the scion to be propagated from or disposed of, where the originator or owner did not object, after which it was adopted.

A committee of the Dairyman's National Fair Association waited upon the Board and requested the Society to make a display of horticultural products at their Fair to be held in Chicago next fall.

Referred to a committee consisting of Arthur Bryant, Wm. Jackson and A. Dunning.

On motion the secretary was instructed to use his own judgement in relation to publishing the proceedings of local societies.

The secretary was instructed to distribute the forthcoming volume as follows: the legislature 300, members of the Board 10 each, the Northern and Southern societies 50 each, the Central 100, local societies 25 each, exchanges 100, public libraries, agricultural colleges, experiment stations, etc., 150, farmers institutes 200.

On motion of Mr. Dunning the president and secretary were instructed to look after the appropriation bill and use all honorable means to secure its passage.

The secretary was instructed to employ a short hand reporter to report the next annual meeting, provided a competent one can be employed at a cost not to exceed $50.

The committee appointed to confer with the Governor in relation to Arbor Day reported that he considered our proposition favorable and said that he should in all probability, when he issued his proclamation, name the 19th of April as Arbor Day.

On motion, it was ordered that the Secretary's salary be fixed at $300 per annum, and that he be allowed $50 for extra office help.

The committee to examine outside papers for publication in our volume, reported that they had not found anything which they were prepared to recommend for publication.

The committee to confer with the Dairyman's Fair Association in regard to an exhibit of fruit at their fair next fall, asked for further time, which was granted.

The President and Secretary were authorized to appoint a superintendent to take charge of the exhibits at the next annual meeting. The President appointed C. E. Dennis, of Hamilton, to that position.

The following bills were allowed and warrants drawn for their payment.

H. M. Dunlap,	Expense bill		$13.25
J. S. Browne,	"	"	9.85
C. N. Dennis,	"	"	12.40
Wm. Jackson,	"	"	8.95

A. Dunning,	Expense	bill	20.00
Arthur Bryant,	"	"	16.00
A. C. Hammond,	"	" and cash advanced	19.69
F. I. Mann	"	"	11.72
Phil. Dallam,	Printing	"	51.00

Adjourned to meet at the call of the President.

H. M. DUNLAP, *President.*

A. C. HAMMOND, *Secretary.*

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